INDEXES TO VOLUME XXXII

INDEX OF NAMES

Horticultural Abstracts, Vol. XXXII

Aalders, L. E., 491, 2587, 6196
Aalsmeer Research Station for Floriculture, 3190
Aamisepp, A., 2988
Abad Manrique, J. B., 2296
Abbey, F. M., 3302
Abbott, D. L., 4208, 6101
Abd Elhafez, M. A., 696
Abdelkader, S., 726, 740
Abdul Khader, J. B. M. M., 6257
Abe, I., 309, 315
Abeels, P., 3504
Abeywardena, V., 1891
Abraham, A., 7393
Abraham, K. J., 3781, 7345
Abraham, P., 1479
Abrahão, J., 3868, 3923, 5647
Abram, R., 3632
Abramides, E., 3666
Abramovitch, R. A., 1514
Abrams, R., 6504
Abrol, B. K., 1482
Accademia Nazionale di Agricoltura, Bologna, 5987
Acevedo-Ramos, G., 7515
Achaya, K. T., 7195
Achenich, W., 5458
Achitov, M., 2209
Ackerman, W. L., 1856, 2163
Ackermann, H., 2950
Acosta-Matienzo, A., 6983
Adam, A. V., 7360
Adams, G. A., 3632
Adams, N. E., 1383
Adams, R. E., 6324, 6395
Adamson, D., 5864
Adamson, R. M., 973, 5890, 6895
Adão, S. M., 5618
Addy, S. K., 4353
Adhikari, S., 957
Adler, F. J., 412
Adlerz, W. C., 907, 6577
Adrian, J., 5658
Adrian, P. A., 396, 4415, 4416, 4639
Adriance, G. W., 218
van Adrichem, M. C. J., 6175
Adsuar, J., 1122, 3980
Agnew, L. B., 2057
Agnihothrudu, V., 7553, 7556
Agrawal, K. C., 2371, 3695
Agricultural Research Council, 2874
Ahmad, M., 1984
Ahmad, R., 1953, 7273
Ahmad, S., 1949, 1952, 1953, 1954, 1962, 1975
Ahmad, W., 1962
Ahrens, J. F., 5115, 6896
Ahuja, B. S., 3560
Aichele, H., 5805
Aichele, M. D., 1339, 2699
Ailincăi, N., 5133, 5188
Aitkenhead, P., 5896
Aiyadurai, S. G., 1607
Aiyar, K. V. G., 5751
Aiyer, A. K. Y. N., 1479
Akamine, E. K., 1783
Akehurst, B. C., 1355
Akhtar, M., 1980, 1981
Akhurst, C. G., 5690
Akins, P. S., 5337
Akmal, H., 1982
Aksu, S., 1471, 3458
Alagianagalingam, M. N., 5733
Alam, S. Q., 5926
Al'bekov, R. M., 527
Albert, J. J., 653, 4623
Albert, L. S., 1093
Alberta Department of Agriculture, 151
Albini, T., 3221
Albrecht, S., 4830
Albuquerque, F. C., 2158, 3629
Al'Delaimy, K. A., 1727
Alder, E. F., 5042, 5189
Aldrich, T., 587
Aldrich, T. M., 2889
Aleksandrov, A. D., 555
Aleksandrova, V. A., 7308
Aleksidze, N. E., 708
Alexander, D. Mc E., 4516
Alexander, G. V., 4868
Alexander, M., 2965
Alexandrescu, I., 531
Alexandri, A. V., 4313, 4717
Alghisi, P., 3026
Ali, M. H., 1983
Ali, N., 1949, 1964, 1975
Ali, S. E. D. F., 7145
Ali-Zade, M. A., 2124, 4006
Aliev, M. A., 6028
Alkmaar, Proefstation voor de Groenteteelt in de Volle Grond in Nederland, 6473
Allan, H. H., 145
Allan, P., 5685
Allan, R. M., 1042
Allard, C., 4954
Allard, J., 7005
Allard, R. W., 916, 4892
Allavena, D., 1571, 5402, 7158
Allen, A. G., 2975
Allen, E. F., 5212
Allen, G. H., 1618
Allen, J. D., 4918, 6540
Allen, P. G., 886
Aller, H. E., 2283, 6874
Alleweldt, G., 537, 2618, 2647, 6243
Alley, C. J., 4504
Allison, H. W. S., 5572
Almeida, C. R., Marques de, 542, 2665
de Almeida, F. J., 7317
de Almeida, J. [de] L. F., 2623, 3115
Almindelig Dansk Gartnerforening, 5953
Alonte-Orillo, C., 7378
Alov, A. S., 3526
Alpat'ev, A. V., 6582
Al'per, V. N., 6861
Altmann, H., 1113
Alvarez, R., 3964
Alves, A. C., 3527, 3535, 3543, 3554, 3562, 3630
Alvey, N. G., 2193
Alvisi, F., 4476
Amar, S. S., 4054
do Amaral, A. Z., 3964
do Amaral, J. F., 4955
do Amaral, S. F., 7092
Ambarcumjan, M. A., 274
American Seed Trade Association, 782
Amerine, M. A., 4526
Amicucci, U., 3754
Amirhanov, N. A., 7202
Amling, H. J., 6745
Ammal, E. K. J., 6831
Amoore, J. E., 5833
van Amson, F. W., 1859, 3687
Anand, K. K., 7135

Ananth, B. R., 1919, 5643
Ananth, K. C., 1937, 1938, 7451
Anavaradham, L., 953
Andaya, L. F., 7405
Andersen, A., 2308
Anderson, J. D., 332
Anderson, J. L., 2941
Anderson, J. R., 4070
Anderson, L. D., 6500
Anderson, L. E., 5656
Anderson, M. A., 5130
Anderson, M. M., 495, 6203
Anderson, P. J., 3464
Anderson, R. E., 413
Anderssen, F. G., 2164
Andeweg, J. M., 2927
Andison, H., 6422
Andrade, A. C., 3923, 7376
Andreae, W. A., 4117
Andrejević, L., 4422
Andrén, F., 4857
Andreotti, R., 6737
Andreucci, E., 5230, 6817
Andrews, P., 332
Andriano, M., 4693
Andronov, P., 6031
An Foras Talúntais, Dublin, 206, 2336, 2337, 2338
Angeli, L., 3039
Anghel, G., 786, 787
Angheluţă, M., 7003
Aniţia, N., 7009
Anon, 104, 141, 255, 260, 312, 376, 392, 400, 402, 413, 449, 508, 592, 604, 642, 684, 745, 770, 799, 823, 828, 837, 875, 888, 984, 1019, 1076, 1080, 1102, 1141, 1248, 1320, 1356, 1357, 1370, 1384, 1451, 1475, 1490, 1492, 1494, 1497, 1498. 1679, 1749, 1752, 1781, 1828, 1840, 1841, 1844, 1845, 1865, 1883, 1892, 1993, 2004, 2011, 2012, 2017, 2018, 2020, 2021, 2023, 2024, 2031, 2045, 2080, 2109, 2198, 2273, 2323, 2500, 2521, 2612, 2877, 2920, 2957, 3014, 3023, 3048, 3053, 3090, 3097, 3102, 3108, 3130, 3209, 3210, 3222, 3245, 3280, 3350, 3354, 3373, 3392, 3407, 3474, 3517, 3519, 3731, 3825, 3833, 3845, 3898, 3927, 3929, 3933, 4148, 4172, 4254, 4408, 4409, 4412, 4441, 4714, 4840, 4971, 5009, 5037, 5106, 5117, 5128, 5215, 5237,
Anon—(*continued*) 5240, 5251, 5370, 5423, 5608, 5673, 5691, 5696, 5734, 5891, 5931, 5937, 5945, 5994, 5997, 6008, 6020, 6080, 6102, 6215, 6250, 6258, 6299, 6534, 6538, 6574, 6643, 6660, 6661, 6676, 6704, 6754, 6859, 6970, 7060, 7064, 7111, 7220, 7420
Ansari, M. N. A., 2082
Antcliff, A. J., 2648, 2656
Anthon, E. W., 6407
Antoniani, C., 2535
Antunes, C. S. N., 3858
Antunes, H., Jr., 3858
Anzalone, L., Jr., 7518
Anzilotti, F., 1790
Anzin, B. N., 4368
Aoba, T., 1214
Aoki, A., 2462
Aoki, N., 6032, 6033
Appaiyan, M. C., 3795
Appalanarasiah, P., 3989
Apple, J. L., 1369, 3482, 3483, 5257, 7085
Apt, W. J., 3312
Apterman, G. Z., 550
Arakeljan, A. O., 2793, 4681
Arakeri, H. R., 3943
Araújo, J. B. M., 5654
Arbeitsgemeinschaft Frostschutz, 5805
Arbeitsgemeinschaft Schalenobst, 4563
Arceneaux, L. L., 2067
Archibald, J. A., 2676
Arditti, J., 3347
Arena, M., 5497
Arguelles, A. L., 6523
Argun, B. G., 3751
Ariav, E., 3684
Arima, H., 1146
Arisumi, T., 1327
Arizona Agricultural Experiment Station, 5959
Armstrong, J. F., 2830
Armstrong, W. D., 344
Arnold, P. W., 7382
Arnold, W. N., 2181
Arnott, H. J., 1196, 1262
Arnoux, J., 291
Arnoux, M., 3152
Arrington, E. H., 296
de Arruda, H. V., 3875, 3887, 3964, 3966
Arsić, M., 631
Artamkina, I. Ju., 4165
Arvidsson, L., 5803
Arya, H. C., 6415
Asadullah, M., 1956
Asana, R. D., 5810
Asbun, W. L., 3553
Asen, S., 5151, 6870
Asher, C. J., 2205
Ashida, J., 49
Ashizawa, M., 2488
Ashri, A., 1621, 1622
Ashton, F. M., 79, 4125, 4126, 5041
Aspinall, G. O., 1581
Asquith, D., 695
Assaul, B. D., 4925,
Association of Growers of the New Varieties of Hops, 3578 ,
de Assunção, M. L. T., 3860
Astahov, A. I., 2416
Atal, C. K., 1574, 1575, 3068, 3556
Atanasov, D., 3428
Athwal, D. S., 5252
Atkins, C. D., 1775
Atkins, E. C., 4928
Atkins, E. L., Jr., 1747, 1753
Atkinson, B., 4057
Atkinson, F. E., 4436
Atkinson, J. D., 270, 6064
Attiah, H. H., 696, 939
Atwood, W. M., 478, 673
Aubertin, M. P., 351
Auckland, J. N., 7426
Audia, W. V., 4988
Audus, L. J., 949
Auld, B. A., 6891
Aultman, D. A., 4948
Aumüller, H., 4294
Aura, K., 6687
Austin, M. E., 447
Austin, S. W., 3672, 3707, 7227
Australia, C.S.I.R.O., 155, 156 2340, 5963
Autry-Hall, F., 919, 6580
Auyong, T. K., 2691
Åvall, H., 2840, 3077
Avanzi, E., 4739
Avent, K. L., 489
Averna, V., 1704
Avery, D. J., 4660
Avetisjan, S. N., 6238
Avidov, Z., 1750
Avilés Pacas, C., 5640
Avramescu, A., 4831
Avramov, L., 521, 2616, 4501, 6227, 6256
Awad, M. M., 4397
Awada, M., 5682
Awasthi, P., 4846
Axelsson, F., 873, 6554, 6700
Ayala, A., 3922
Ayala, H., 3444
Aycock, R., 2860
Ayfer, M., 597
Ayres, A. S., 3970
Aziz, A. B., 5478

Baarschers, W. H., 7152
Babcock, P. A., 7121
Babij, V. S., 2763
Babriwala, G. T., 3963
Babu, C. N., 2041
Babu, D. R. C., 3568
Baccetti, B., 5524
Bacchi, O., 3124
Bačevskij, Ja. T., 560
Bach, M. K., 2244
Bachthaler, E., 3231
Bachy, A., 5625, 7395
Backeberg, C., 1255, 1256, 6903
Bacon, J. S. D., 1488
Bacot, A. M., 1407
Bacq, C. M., 1048
Badami, R. C., 7185
Badanin, P. A., 316
Badenhuizen, N. P., 6900
Bader, K. L., 6898
Badin, P., 5431
Bado, G., 5033
Baens-Arcega, L., 6523
Baggiolini, M., 739, 6414
Bagot, Y., 3853, 7407
Baicu, T., 4644, 4717
Bailey, D. L., 3131, 3175, 5085
Bailey, J. C., 3723, 3727
Bailey, J. S., 4489
Bailey, P. H., 1588, 1589, 1594
Bailey, R. M., 6005
Bailey, W. A., 1176
Bain, J. M., 2508
Bains, K. S., 930
Bair, R. A., 6824
Bajescu, N., 4546
Bajpai, P. N., 237
Bajwa, B. S., 5451, 5663
Bak, R., 47
Bakarcic, M., 3652
Baker, E. A., 4155, 5916
Baker, G., 4000
Baker, G. A., 6283
Baker, H., 606
Baker, J. J., 5896
Baker, R., 870, 5149
Baker, R. S., 4835, 4962
Bakhshi, J. C., 7232
Bakker, J., 3203, 3301, 3316
Bakker, M., 1167
Bąkowska, E., 6200
Bakshi, J. C., 1667, 5451, 5663
Balašova, N. N., 6631
Balasubramanian, M., 5879
Balasubramanian, M. A., 3823
Balasubramanian, S. C., 2262
Baldacci, E., 26, 4570, 4599, 4646, 4648
Baldassari, T., 6094
Baldauf, M. P., 562
Baldini, E., 2557, 4476, 4739, 5521
Baldini, M., 4476
Baldit, G. L., 2272
Baliga, B. R., 7150
Ballantyne, D. J., 5209
Ballester, M. R., 6504
Balsgård Fruit Breeding Institute, 219
Baltagi, B., 4508, 4509
Bampton, S. S., 5378
Banaag, A. F., 3067
Banana Board, Jamaica, 3789
Bandong, P. P., 3067
Banerjee, S. N., 5488
Banfi, A., 3652
Banga, O., 781
Bannan, M. W., 5951
Bannò, A., 4476
Baractaru, M., 578, 4534
Baraldi, G., 137, 2668
Barbados Central Sugar Cane Breeding Station, 2036
Barbero, E., 5809
Barbier, E.-C., 1560
Barbier, M., 5558
Barbieri, R., 4739
Barbosa, L. A. G., 2167
Barbosa-Cupeles, J. E., 1913
van Baren, F. A., 7336
van Baren, H., 6528
Barger, W. R., 983, 4773
Bargioni, G., 4739
Barkai-Golan, R., 3736
Barlow, H. W. B., 54, 4348
Barloy, J., 7160
Barner, J., 2858
Barnes, E. H., 649
Barnes, G. L., 94, 668, 6374
Barnes, I. C., 7495
Barnes, M. M., 723, 4673, 6421
Barnes, W., 5718
Barnes, W. C., 879, 880
Baron, C., 6001
Baroni, O., 2070
Barooah, S., 4960
Barr, R. J., 7282
Barra, I., 681, 6394
Barrentine, B. F., 2872
Barrie, A. G., 2099, 5722
Barriga, C., 946
Barron, E. J., 7210
Barron, R. W., 1774
Barrow, V. L., 3030, 3037
Bars, A., 5416
Bartella, M., 7215
Barten'eva, G. A., 287
Barthakur, B., 4960
Bartlett, A., 3377
Bartlett, G. S., 3999
Bartley, B. G. D., 5575, 5576
Barton, L. V., 1197
Bartos, G., 5159
Barua, D. N., 2114, 4008, 7540, 7547
Bascom, L. A., 3726
Bascomb, C. L., 762
Basheer, M., 2954, 5015, 5087
Basinski, J. J., 3620
Basler, E., 2243
Basnin, S. A., 7105
Basse, H., 3007
Basset, M., 4069
Bassett, I. J., 2253
Basso, M., 6009
Basson, S. G., 6452
Basson, W. J., 1672
Basteleus, R., 1239, 2585
Bastos Cruz, B. P., 3119
Basu, H. N., 1604
Basu, S. K., 5817
Basutoland Department of Agriculture, 187
Basye, R. E., 5213
Batchelder, A. R., 929, 2960
Bateman, D. F., 1345, 3360
Bates, W. W., 5275, 5276
Bate-Smith, E. C., 2477
Batinica, J., 750
Batjer, L. P., 364, 373, 2505, 2698, 6100
Batra, B. M., 1364, 5252
Batra, H. N., 710, 4808
Batt, R. F., 766
Battersby, A. R., 1505, 3555
Battistini, A., 2538
Bauer, R., 436, 4486
Baumann, E., 4744
Baumann, G., 2692, 2714, 6323
Baumann, J., 4476
Baumeister, G., 4488
Baumgart, M. G., 472
Baumgartner, P., 3112
Bausá Alcalde, M., 3524
Bavappa, K. V. A., 1829, 3778, 3781, 3783, 7343, 7344, 7345
Baver, L. D., 5727
Bawolska, M., 6973
Bawolski, S., 6979
Baxter, P., 4425
Bayer, D., 3215
Bayer, M., 4900
Bazan, E., 1704
Bazán de Segura, C., 6724
Bazier, J., 4619
Bazire, M., 1935
Beakbane, A. B., 2426, 4371
Bean, R. C., 5437
Beard, F. H., 1585
Beater, B. E., 1902
Beattie, J. M., 562
Beauchard, J., 556
Beccari, F., 1847, 3811, 5932
Beck, W., 3475, 7066
Becker, G., 6290
Becker, H., 525, 6233
Beckert, W. M., 6305

Beckman, C. H., 3806, 3807, 5549, 7365
Bedding, A. J., 3041, 3282
Bedenko, V. P., 35
Bedford, C. L., 6004
Bedi, P. S., 4924
Beech, D. F., 3620
Beech, F. W., 146
Beeman, J. F., 7021, 7022
Beeson, F., 6180
Beevers, H., 7189
Begg, J. A., 1445, 7089
Behl, K. L., 2101, 5750, 7531
Behmer, M., 4298
Behr, L., 4611
Beijer, J. J., 1224, 1233, 1237, 6869, 6877
Bein, S. J., 6901
Beirne, B. P., 2334
Bélanger, J. A., 7005
Belavady, B., 2262
Bełdowicz, M., 7193
de Bel-van der Elst, A., 3202
Beleva, L. S., 4485
Belgraver, W., 3219
Belič, I., 1554
Belik, V. F., 794, 890
Belin, M., 3828, 3891
Beljaeva, V. B., 4855
Beljavskaja, A. F., 6449
Belkengren, R. O., 4588, 4594
Belksma, M., 4182
Bell, H. K., 2572, 2575
Bell, T. A., 4110
Bellavita, O., 1917
van Belle, G., 6133, 6134
van Belle, O. C., 4335
Bellini, P., 3571
Bellu, O., 4551
Bénassy, C., 2816
Beñatena, H. N., 3652
Bender, E., 6435
Benedek, L., 5013, 6725
Benedetti, F., 6526
Benedict, C. R., 7189
Beneš, V., 2976
Benetti, M. P., 4045
Bengston, M., 712, 713, 2812
Bengtsson, A., 962
Benjamin, L. B. P., Jr., 6945
Benne, R., 4356
Bennett, D. E., Jr., 1266
Bennett, F. D., 7526
Bennett, L. G., 2
Bennett, M., 4615
Bennett, R. B., 5264
Bennett, S. E., 2790
Benoit, F., 5537
Bensink, J., 974
Benson, L., 5950
Benson, N. R., 2698, 2700, 4314, 4691, 6071
Benvenuti, A., 4739, 4795
Ben-Yehoshua, S., 3650, 3651
Ben-Zeev, N., 5816
Beraha, L., 4424
Beran, F., 2285
Berbeć, J., 1365, 1366, 1378, 1428, 6973, 6979, 7031, 7056
Beresford, S. W., 1023
van den Berg, D. J., 1579
Bergann, F., 3356, 6834
Bergann, L., 6834
Bergant-Dolar, J., 1554
van den Berge, C., 6091
Berger, P., 3476
Bergh, B. O., 3634
Berghol'c, N. L., 6393
Bergman, B. H. H., 1234
Bergman, E. L., 6749
van Berkum, J. A., 5906
Bermuda, Director of Agriculture, 188
Bernado, F. A., 2161
Bernhard, R., 2384
Bernier, G., 1048
Bernstein, I., 4157
Berný, M., 785
Beroza, M., 732
Berry, F. H., 670
Berry, R. C., Jr., 1418
Berry, S. Z., 1561
Berrysmith, F., 2613
Bertsch, W. F., 2220
Besemer, A. F. H., 4688
Bessis, 2663
Best, K. F., 84
Bethe, J. G. C., 3027
Bethell, R. S., 6443
von Bethmann, M. F., 1470
Betlach, J., 3116
Better, E. J., 3766
Betto, E., 4890, 5305
Betzema, J., 3071
Beutel, J. A., 7245
Bevan, W. J., 2999
Bevenue, A., 2518
Beye, F., 110, 111
Beyers, E., 319, 2542
Beyrich, T., 3516
Bhagchandani, P. M., 4986
Bhakuni, D. S., 1203, 1535, 5432, 7136
Bhan, K. C., 1839, 3793
Bhapkar, D. G., 4734
Bhardwaj, R. B. L., 3973, 7506
Bhargava, K. S., 6940
Bhat, J. V., 7150
Bhat, K. S., 1824
Bhat, N. R., 3988, 5740
Bhatia, D. S., 4036
Bhatia, I. S., 4030, 5787
Bhatnagar, G. S., 1335
Bhatnagar, S. S., 5357
Bhatt, D. D., 6379, 6380
Bhattacharya, I. C., 1530, 1547, 5363
Bhavnani, J. K., 2669
Bhoj, R. L., 5714, 7513
Bhore, D. P., 4734, 5671
Bhujang, K. S., 5405
Biale, J. B., 3649, 3650, 3651
Bianchi, H., 1633, 2815, 2816
Biddulph, O., 2238
Bidwell, R. G. S., 3131, 5085
Bieleski, R. L., 3649
Bielka, R., 5346
Biely, M. I., 1715
Biemann, K., 5392
Biernacka, E., 6493
van Biesen, J., 7356
Biggi, E., 5652
Biggs, R. H., 55, 6077
Bigi, F., 7391
Bik, R. A., 3276, 3366, 3372
Bilanisvili, G. A., 4698
Bilbruck, J. D., 1124
Bing, A., 1347
Bingham, F. T., 3640, 3641, 5436
Bingley, G. W., 4836
Bini, G., 2484, 6016
Binstadt, A., 2638
Biondi, G., 659
Birecka, H., 6615, 6616
Birmingham University, 4211
Bisgaard, E., 5953
Bishop, P., 959
Bishop, R. F., 6464
Bisht, B. S., 1531, 1532, 5382
Bisht, N. S., 5147, 6322
Biskup, J., 6981, 6994
Bisset, N. G., 7118, 7119
Bitters, W. P., 1668, 7222, 7223, 7231
Bjälfve, G., 2991
Bjerkestrand, E., 1319
Bjorking, L. B., 3977
Bjurman, B., 2593
Blache, M., 6359
Black, J. A., 4770
Black, J. D. F., 292
Black, W. R., 2935
Blackman, G. E., 4213
Blagojević, M., 5327
Blaim, K., 1924
Blaja, D., 4565
Blake, C. D., 913, 3815, 7370
Blake, J., 3224, 6813
Blake, J. R., 1644, 4420, 4434
Blanc, D., 1166, 6812
Blanchard, J. D., 2102
Blaney, L. T., 3365
Blank, G. B., 4099
Blank, H. G., 4431
Blankwaardt, H. F. H., 100
Blanpied, G. D., 388, 4421, 6120, 6125

Blasse, W., 2458, 4308, 4309
Blattný, C., 4581, 4595, 4606
Blattný, C., Jr., 4581, 4595
Blažek, Z., 3525
Bleasdale, J. K. A., 1035
Blencowe, J. W., 7388
Blesa, C. A., 5712
Blinn, R. C., 7279, 7280
Bliss, W. R. D., 5637
Blodgett, E. C., 2697
Blommers, J., 2565
Blumenfield, D., 819
Blumenthal-Goldschmidt, S., 970
Bluvštejn, I. N., 2753
Boa, W., 7470
Boatfield, J. M., 6183
de Bobadilla, G. F., 2666
Bobb, A. C., 2430
Bobb, M. L., 2806
Bobbio, P. A., 6675
Bobnev, A. D., 2607
Boboševska, D., 4984
Bobryševa, A. M., 484
Bočarova, L. P., 4694
Boceski, D., 1469
Boch, R., 1620
Bock, K. R., 7444
Bôcsa, I., 5403
Boddy, F. A., 1299
Bode, H. R., 4080
Bode, O., 3466
Bodemkundige Dienst van België, 817
Bodi, I., 4316
Boehm, E. W., 612, 6279
Boelema, B. H., 2749, 4968
Boerema, G. H., 88
Bogačeva, I. I., 4093
Bogdanov, H. P., 563
Bogdańska, H., 2579
Bogdańska, H. W., 2512
Bogdański, C. A., 2512
Bogdański, K., 2579, 6114, 6177
Boggiatto, A. J., 4440
Bogoyavlenskii, S. G., 7194
Bogun, S. S., 6347
Bohart, G. E., 1031
Bohm, B. A., 1334, 6839
Böhm, H., 2760, 6417
Böhme, F., 278
Bohmont, D. W., 928
Bohn, G. W., 911
Boit, H.-G., 1517
Boiteau, P., 4053
Bojńanský, V., 4137
Bokućava, M. A., 2153
Bolay, A., 6368
Bollard, E. G., 352
Bollen, W. B., 2332
Bolli, M., 5846, 5875, 7320
Bologna, Accademia Nazionale di Agricoltura, 5987
Bolotskij, Ju. S., 6044
Bolsunov, L., 1416
Bolt, M., 2822
Bolton, A. T., 4592, 6381
Bolton, J., 5694
Bolus, H. M. L., 3266
Bolz, G., 5156
Bömeke, H., 646, 2455, 4185, 4431
Bomers, G. F., 5267
Bonaventure, P., 3828
Bond, T. E. T., 3319
Bonde, E. K., 6623
Boneta-García, E. G., 6983, 7011
Böning, K., 2858
Bonner, J., 2231
Bonner, W. D., Jr., 43
Bonola, P., 4890, 5305
Boodley, J. W., 140, 1190, 5185
Booker, R. H., 5481
van der Boon, J., 317, 467, 4428, 4429
Booster, D. E., 2584
Booth, A., 4115
Booth, C., 3805
Bordeianu, T., 4316, 5988
Borden, F. Y., 1084
Borders, H. I., 3174
Borecki, Z., 2739
Borland, L., 4458
Bormann, F. H., 5951
Bornás y Urcullu, G., 4038
Börner, H., 2692, 3514, 6308
Boroughs, H., 4869, 5579
Borovikova, A. Z. 4728
Borries, F. B., Jr., 5330
Borthwick, H. A., 1176, 1687, 2225, 5124, 5125
Borzini, G., 991
van den Bosch, R., 2334
Boschma, K., 5827
Bose, A. N., 5495
Bose, B. C., 3569
Bose, J. L., 1971
Bose, P. C., 2624, 3153, 5063
Bose, P. K., 7139
Bose, T., 1484
Bosher, J. E., 6175
Boshoff, W. H., 3872
Boskoop, Proefstation voor de Boomkwekerij, 1294, 6798
Bošković, M., 2419
Bosley, J. B., 6291
Bossi, R., 6348
Bosticco, A., 6286
Boswell, A. L., 700
Boswell, V. R., 997
Bot, J., 4968
Botez, I., 4381
Botsevski, D., 1464
Bottomley, W., 89
Boubals, D., 2643, 4498, 6339, 6391
Bouharmont, J., 2010
Boulanger, L. W., 741
Boulanger, P., 5420
Boulay, H., 209
Bould, C., 463, 4307
Boulle, P. F., 3506
Bouma, D., 3702
Boumans, M. M. G., 6184
le Bourdellès, J., 7353
Bourke, J. B., 6620
Bournier, A., 6453
Bouron, H., 6350
Bouychou, J.-G., 5695
Bové, J.-M., 7258
Bovey, R., 2706
Bowden, J., 3829, 3892
Bowden, W. M., 3250
Bowe, R., 5141, 5204
Bowen, C. C., 1228
Bowen, G. D., 3149
Bowen, H. D., 5908
Bowen, H. J. M., 5056
Bower, J. A., 460, 4062
Bowers, J. L., 877
Bowman, E. K., 7286
Bowman, R. I., 6741
Box, C. O., 3368, 5197, 6867
Boyce, D. S., 3894, 7456
Boyce, J. H., 5190
Boyd, F. T., 5731
Boyé, P., 7469
Boynton, D., 466, 1861, 4448, 4452
Bozarth, R. F., 5319
Bradford, G. R., 3700, 7237
Bradford, M., 75
Bradley, E. F., 3472
Bradley, G. A., 889, 4771, 4803, 5208
Bradley, M. V., 5836
Bradt, O. A., 2509
Bragdø, M., 6711
Brahfogel, P. F., 4728
Braithwaite, B. M., 913, 1133, 4143, 6782
Branas, J., 530, 2722, 6263, 6416
Brandenburg, E., 2851
Brandenburg, W., 950, 3079
Brannon, D. H., 6205
Brantley, B. B., 847, 902
Branton, D., 295
Brants, D. H., 7050
Branzanti, E. C., 468, 4263, 4739
Brarmann, E. F., Jr., 1298
Brase, K. D., 2708, 6325
Brasher, E. P., 5008, 5028, 6516
Brasil, M. O. C., (Sobr.) 7206

Braudeau, J., 7390
Brauer, O., 6727
Braun, A. J., 6335
Braun, H., 6354
Brauns, M., 2562
Brauns, P. J. C., 1619
Breakiron, P. L., 2935, 3647
Breider, H., 6241
Breland, H. L., 1396
Bremer, A. H., 4746
Bremer, G., 5704
Brenda, F., 2530
Bressani, R., 5563
de Breux,—., 6173
Breviglieri, N., 512, 518, 1788, 2408, 3750, 4739, 6003, 6213, 6214, 6247
Brewbaker, J. L., 67
Brewer, H. L., 4416
Brewer, R. F., 3099
Brewster, R. H., 1187, 3236
Brian, P. W., 4208
Briand, L. J., 2909
Brierley, P., 1157, 3225, 6814, 6847
Brigham, R. D., 7187
Bringhurst, R. S., 441, 2559, 4445, 4454, 4456, 4457
Brinton, F. E., 6463
Briolle, C., 5625
British Columbia Department of Agriculture, 152, 5910
British Guiana Department of Agriculture, 2362
British Honduras Department of Agriculture, 189, 7500
British Mycological Society, 5895
British Solomon Islands Department of Agriculture, 190
Britt, O. K., 1330
Brittain, J. A., 4400
Broadbent, L., 1117, 2345
Broadhead, D. M., 7510
Brochmann-Hanssen, E., 1540
Broda, B., 7120
Broekhuizen, J. T. M., 5111
Broeshart, H., 5046
Brogdon, J. E., 6503
Brooke, D. L., 1645
Brooks, H. J., 1163
Brooks, R. F., 7275, 7277
Brooks, R. M., 4257
Brooks, S. N., 5408, 5410
Brossard, —., 1811
Brossard, J., 5926
Brossier, J., 2409, 4288, 6007, 6039
Brothers, S. L., 6993
Brough, C. R., 339
de Brouwer, W. M. T. J., 6662
Brown, A. L., 4870
Brown, D. S., 7323
Brown, E., 1300
Brown, J. C., 150
Brown, J. H., 6917
Brown, L. C., 4327
Brown, L. D., 2867
Brown, M. S., 3448
Brown, W. M., Jr., 6311
Brownlee, C. H., 6059
Brózik, S., 2445
Bruck, J., 5266
Brückbauer, H., 2644, 2693, 4604, 6337
van den Bruel, W. E., 988
Bruhlej, M. A., 6085
Bruinsma, J., 5898
Brummund, V. P., 2675, 4536
Brun, J., 5552, 7368
Brun, W. A., 1838, 3798, 5549
Bruni, B., 518, 2626
Bruno, A., 5450
Brunson, M. H., 2794
Brunt, A. A., 1864, 5601, 5604, 7386
Bryan, B. B., 1100
Bryan, O. C., 1694, 3692
Bryant, J. H., 2801
Bryant, L. R., 2566
Bryssine, P., 6603
Brzesowsky, W. J., 7356
Bubrjak, I. I., 2118
Buch, M. L., 6118
Buchholtz, K. P., 5887
Buchholz, W., 4745
Buchloh, G., 4425
Buckley, E. H., 2227, 3802
Budagovskij, V. I., 240
Buddenhagen, I. W., 5549, 5550
Buehrer, T. F., 3561
Buffel, K., 53
Buffington, G. A., 3084
Buford, W. R., 3729
Bugbee, W. M., 5140
Buhr, R., 3379
Bui-Huy-Dap, 7246
Bujanovskij, D. S., 6115
Bukovac, M. J., 894, 1309, 4070, 4352, 4794, 6589
Bulatović, S., 4387, 6109
Bull, M., 1780
Bull, P. C., 6454
Bull, R. A., 1925, 1994, 7433, 7438
Bullock, J. A., 3613
Bullock, R. C., 3819, 7371
Bumba, V., 3529
van de Bund, C. F., 1172
Bundesanstalt für Pflanzenschutz, Wien, 2266
Bünemann, G., 2543, 2577, 4244, 4419, 6143
Bunn, J. M., 1373
Bünsow, R., 3344
Bunt, A. C., 1083, 3128, 4063, 5040.
Burchill, R. T., 4213, 4615
Burckhardt, H., 5805
Burdekin, D. A., 7439
Burdine, H. W., 4817, 4819, 7514
Burditt, A. K., Jr., 5483
Burdonov, E. I., 3054
Burg, E. A., 5441, 7340
Burg, S. P., 4354, 5441, 7340
Burgaud, L., 6371
Burgess, P. G., 5039
Burghardt, H., 2207
Burgis, D. S., 1085, 6852
Burk, L. G., 3416, 5303
Burke, J. H., 1787, 3654 ,7213
Burlage, H. M., 1617
Burle, L., 3821
Burleson, C. A., 931, 2882, 3078
Burley, J. W. A., 4493
Burloi, N., 4310
Burman, R. D., 928
Burnett, R. H., 1711
Burnier, J., 1001
Burns, A. J., 6135
Burns, R. M., 3636, 7211, 7212
Burr, H. K., 1015
Burt, S. W., 6132
Burton, C. L., 2944
Burton, S. D., 1525
Burton, W. W., 1418
Burts, E. C., 2700, 4691, 6444
Burykin, D. A., 3059
Busby, J. N., 6046
Busch, R., 2429
Bushong, J. W., 634, 4607
Buškova, L. N., 4854, 6569
Bussler, W., 20, 5569
Buszczak, T., 3510
Buta, T., 6985
Butani, D. K., 2083, 7466
Butenko, R. G., 5851
Butler, G. D., Jr., 5195
Butson, K. D., 2688
Butters, R. E., 1082
Buttery, B. R., 5693
Buttery, R. G., 122
Butts, J. S., 56, 6619, 6620
Buxton, E. W., 7366
Buys, M. E. L., 2453
Buzacott, J. H., 3948
Byerrum, R. U., 5290, 7038
Bylda, A. Z., 256
Byrde, R. J. W., 6458
Byrne, T. G., 5830
Bysenko, D. M., 6224

Cabato, F. H., Jr., 3822
Cadillat, R. M., 407, 1830, 7373

Cadman, C. H., 626, 627, 2271
Cahill, R. G., 293
Cahoon, G. A., 1692, 3686, 4184, 7225
Cain, B. F., 1501
Cain, J. C., 6139
Cairncross, G. T., 5135
Čajlahjan, M. H., 2191, 4121, 5851, 5852
Calabretta, C., 816
Calavan, E. C., 1729
Calcandi, V., 1474, 3533
Calcatin, N., 5031, 5048
Calcutta Agricultural Society, 207
Calderbank, A., 4156
Caldwell, T. H., 5928
Calitz, P. C., 7088
Call, D. L., 1022
Callahan, J. W., 6553
Callahan, L. M., 6897
Calle Velez, H., 1941
Callmar, G., 6079
Calpouzos, L., 3810, 5313
Calton, W. E., 1816
Camacho, E., 2016
de Camargo, A. P., 5455
Cambie, R. C., 1501
Cambridge, Plant Breeding Institute, 5973
Cameranesi, L., 838
Cameron, C., 3950
Cameron, J. W., 1662, 1663
Cameroons Development Corporation, 191, 5978
Camp, T. H., 405
Campbell, A. I., 482, 617, 2710
Campbell, C. W., 7465
Campbell, J. A., 918
Campbell, J. D., 4804
Campbell, J. M., 4657
Campbell, J. S., 1106, 4733
Campbell, R. C., 4388, 7323
Campbell, R. N., 3018, 4940, 6567
Campbell, R. W., 2517, 2563
Canada Department of Agriculture, 153, 4713
Canals, R. A., 7567
Canarache, V., 5047
Candela, M. R., 2651
Canitano, D., 4739
Cann, H. J., 1831
Cannell, G. H., 867, 4455
Cannon, O. S., 5072
Cannon, R. C., 7474
Canova, A., 3161
Canterbury Agricultural College, N.Z., 4212
Cantillon, P., 7069
Capetti, E., 995
Capinpin, J. M., 3386
Čaplygin, B. K., 3285
Cappelletti, C., 4096
Cappellini, R. A., 2609, 4437
Caputo, E. M., 5837
Carandang, D. A., 1882, 7428
Carandang, R., 5629
Carangal, A. R., Jr., 1818, 3047
Carbonetti, R., 1746
Carden, P. W., 856, 4813, 6445
Cardoso, M., 5564
Cardoso do Vale, J., 3542, 3552, 3627
Cardús, J., 3223
Carew, D. P., 3449
Carle, P., 4601
Carles, J., 4073
Carlone, R., 517, 6223
Carlson, C. V., 571
Carlson, E. C., 1024, 4989, 7197
Carlson, R. F., 4284
Carlsson, G., 999, 1006, 1007, 1008, 1018, 2919, 6524, 6525, 6610, 6611, 6718, 6875
Carlton, B. C., 3091
Carman, G. E., 1754, 7279 7280
Carncross, J. W., 6732
Carnegie, A. J. M., 711
Carolus, R. L., 2867, 4963
Carpenter, J. B., 1666, 7263
Carpenter, W. J., 142
Carrante, V., 1791, 1794, 1795
Carrington, P. L., 2058
Carson, S. M., 4198
Carstens, M. W., 2566
Carstens, W. J., 2749
Carter, H. O., 4041
Carter, M. V., 2993
Cartier, J. J., 6630
Carugno, N., 1410, 1454
Caruso, P., 3121
Carvalho, A., 3857, 3858, 3859, 5646, 5657, 7455
Carvalho, A. M. B., 3163, 3388, 3470, 4597, 6764
de Carvalho, J. M. S., 4627
Carver, R. G., 4596
Cary, P. R., 2465
Casanova, A., 6705
Casarini, B., 763, 2696, 3168, 6392
Casas, E., 4894
Caseley, J., 282
Casilli, O., 1798, 3021
Casini, E., 512, 518
Cass, L. M., 2910
Cassin, J., 5474
Cassuto, —., 7175
Castagne, E., 4200
Castillo, B. S., 1887, 3804
Castle, J. E., 4106
Castro, C. E., 7268
Catabay, F. G., 1914
Cațavela, S., 4291
ten Cate, H. R., 5947
Cathey, H. M., 61, 1154, 1155, 1156, 1176, 2248, 3010, 5124, 5125
Catlow, E., 482
Čatský, J., 2309, 5281
Caudwell, A., 4602, 4603
Cavalchini, A. G., 4739
Cavalloro, R., 3443
Cavanillas Rodríguez, L., 3143
Cave, M. S., 1196
Cawse, P. A., 5056
Cawthron Institute, 2339
Čech, M., 7169
Cejtlin, M. G., 527, 6238
Celestino, A. F., 1014
Celino, E. G., 5629
Celino, M. S., 5629
Cellier, K. M., 6279
Čelyškina, B. A., 6849
Čemodanova, E. V., 2745
Čenikov, V. V., 7041
Central Agricultural Research Station, Carapichaima, Trinidad, 5703, 7499
Centrum voor Plantenfysiologisch Onderzoek, Wageningen, 5960
Černenko, E. N., 539
Černenko, E. S., 2436
Černjaeva, I. I., 4567
Černy, J., 2545
Černyh, N. A., 1231
Ceruti Scurti, J., 3290
Cesarini, G., 2388
Cessac, M., 3063
Cetas, R. C., 3098
Cevallos, M. A., 3817
Ceylon, Coconut Research Institute, 7392
Ceylon, Director of Agriculture, 5979
Ceylon, Rubber Research Institute, 2007
Ceylon, Tea Research Institute, 2105
Chaboussou, F., 2814, 4705
Chacravarti, A. S., 3982, 5749, 7505
Chadha, J. S., 7310
Chadha, K. L., 1963
Chadwick, L. C., 3214, 3216, 5108
Chadwick, M. G. A., 5352
Chaffard, M., 647
Chakrabarty, M. M., 1604
Chakraborty, D. P., 7139
Chakraborty, M. K., 5284
Chakravarti, R. N., 7117
Challenger, S., 3206, 3207

Chalmers, G. R., 6634
Chamberlain, E. E., 2704
Chambers, S. C., 869
Chambionnat, A., 5526
Champ, B. R., 3331
Champion, J., 1837, 5546, 5547, 7347, 7352
Chan, A. P., 1281
Chandler, F. B., 477, 6197
Chandra, G. R., 5096
Chandra, R., 3387
Chandrasekhariah, S. R., 3259, 3777
Chang, C.-C., 5515, 5516
Chang, C. F., 5874
Chang, H., 2049, 2051, 5713
Chang, J., 3955
Chang, J. C. C., 2050
Chant, D. A., 2280
Chapas, L. C., 1988
Chaplin, J. F., 1369, 3415, 3417, 5258
Chapman, G. P., 3518
Chapman, P. J., 4685
Chapot, H., 5474, 7218
Chappell, W. E., 5191, 6056
Chari, A. V., 3981
Charłampowicz, Z., 2581
Charles, A. E., 3839, 5588
Charles, F., 2729
Charles, J., 4073
Charmet, F., 6371
Charpentier, L. J., 2085
Charrière, J., 2491
Chatha, G. H., 1954
Chatterjee, A., 1543
Chatterjee, B. K., 3564, 5398
Chatterjee, R. K., 124
Chatterjee, S. N., 5343
Chatterji, N., 7533
Chaubal, M. G., 1524
Chaudhri, I. I., 5367
Chaudhry, A. R., 1481
Chaudhuri, D. P., 5670
Chaudhuri, R. H. N., 5389
Chaudhury, N. A., 1543
Chaugule, B. A., 5017
Chauhan, K. S., 6077
Chaves, M. M., 1548
Cheal, W. F., 6880
Cheema, M. A., 915
Chella, G., 547
Chen, C.-T. S., 7332
Chen, J. J., 2030
Chen, M. T., 2059
Chen, Y. C., 2050
Cheng, C.-Y., 5684
Cheul, M., 7126
Chevassus, A., 2977
Chhonkar, V. S., 1960, 5065
Chiang, M.-N., 5559
Chiang, S.-H., 925
Chiang, Y. H., 7545
Chiang, Y.-L., 925
Chiapparini, L., 5821
Chiarappa, L., 6284
Child, R., 2148, 3621, 4003, 7562
Childers, N. F., 378
Childress, J. D., 4868
Childs, J. F. L., 1659, 1719
Chin Tet Tsoy, 7490
Chipman, E. W., 975, 1081
Chippindale, H. G., 5411
Chisci, P., 2484
Chiscon, J. A., 5022
Chisholm, D., 6464
Chittenden, E. T., 2540
Chiusoli, A., 4476, 6190
Chodań, J., 5347
Chojnicka, B., 4162
Chokkanna, N. G., 3879, 5643, 5659
Chopinet, R., 3243
Chopra, I. C., 3520
Chorin, M., 3812
Chou, J. C., 5723
Chouard, P., 4079
Choudhury, B., 895, 4828, 5032, 6530
Choudhury, J. K., 2093
Choudhury, S. S., 1658, 7248
Chouteau, J., 1389, 5271, 6999, 7012, 7015, 7045
Christ, E. G., 378
Christen, K., 1541
Christensen, J. V., 488
Christensen, S. A., 2001, 3159
Christensen, T. B., 1581
Christinet, L., 643
Christman, D. R., 1413, 3451
Christopher, E. P., 447
Chrometzka, P., 3598
Chugh, D. V., 7311
Churchward, E. H., 2061
Chwala, C., 4330
Ciaramello, D., 3502, 5564
Ciaravellini, L., 7326
Cibes, H., 5686
Cibes, H. R., 7478
Ciccarone, A., 630, 3160
Cichosz, E., 2739
Cicin, N. V., 5802
Ciciv, M. V., 2834
Ciferri, R., 574, 764, 1437, 1438, 4577, 6338
Čikalova, E. A., 6115
Cîndea, E., 756
Cinq-Mars, L., 4626
Čirkovskij, V. I., 5263, 6992
Ciropol-Calcandi, I., 1474, 3533
Cîrstea, M., 4748, 4831
Čižov, S. T., 2841
Clair, C., 3507
Clancy, D. W., 7274
Clark, B. E., 5813
Clark, D. T., 1161
Clark, F., 1374, 3427, 6993
Clark, G. L., 2324
Clark, N. G., 3017
Clark, P. J., 4721
Clark, R. B., 932, 5438
Clark, S. B., 5830
Clarke, B., 12
Clarke, G., 5078
Clarke, I. D., 4423
Clarke, W. S., Jr., 4566
Clausen, C. P., 6441
Clavier, C., 7188
Clay, D. W. T., 5536
Claypool, L. L., 395
Clayton, E. S., 1899
Cleasby, T. G., 5726
Cleaver, T. J., 4161
Clements, J. N., 1108
Clements, R. L., 3741
Clifford, D. R., 6458
Clifton, C. E., 2332
Clijsters, H., 6122, 6548
Clore, W. J., 117, 2675, 2721, 4536, 6819
Clouston, D., 1241, 6887
Clutter, M. E., 3186
Cluzeaud, A., 556
Coaker, T. H., 6499
Coates, J. L., 7300
Coats, R. G., 3685
Cociu, V., 4379
Cocking, E. C., 4118
Cockroft, L. V., 1455
Cockshull, K. E., 3055
Cocoa, Chocolate and Confectionery Alliance, 5565
Coconut Industry Board, Jamaica, 5622
Coe, R. R., 5163
Coetzee, D. J., 1461
Coffee Research Station, Ruiru, Kenya, 1906
Coggeshall, R. G., 6961
Cohen, M., 1728, 7257
Cohen, S. I., 2942
Cohn, E., 3770
Coïc, Y., 4404, 4901, 5196
Coicu, E., 5383
Coimbatore Sugarcane Breeding Institute, 3942
Coit, J. E., 1648, 5433
Coiteux, J. S. F., 4818
Cojeneanu, N., 4574
Colberg, C., 5313
Colbran, R. C., 2005, 3512, 5322
Colby, A. S., 6201
Cole, J. S., 5312
Cole, S. G., 6544
Coleby, A. W. P., 3726
Coleman, E. P., 1588

Coley-Smith, J. R., 1590, 7170
Colhoun, J., 430, 2905
Collier, D., 4317
Collins, W. B., 448, 462
Colmer, A. R., 5738
Colmet-Daage, F., 7354
Colombo Mariani, P., 4985
Colton, R. W., 4198
Côme, D., 10
Comin, D., 70
Committee of the Privy Council for Agricultural Research, 5961
Commonwealth Economic Committee, 6, 1570, 5417, 5954
Commonwealth Scientific and Industrial Research Organization, Australia, *see* C.S.I.R.O., Australia
Compere, H., 5490
Complin, J. O., 1744, 7270
Compton, O. C., 3398
Condei, G., 2673
Condon, P., 6707
Conev, D. T., 4777, 4878
Conev, I. K., 7041
Congdon, N. B., 2817
Conibear, D. I., 132
Conover, R. A., 5683
Conroy, E., 6751
Conroy, R. J., 3043
Constantinescu, G., 4499, 6239
Constantinescu, N., 4272, 4302
Constantinescu, V., 1011
Constantinov, P. T., 1189
Contractor, A. M., 1536
Converse, R. H., 2719, 4489
Conway, G. R., 5605
Cooil, B. J., 7431
Cook, J. A., 571
Cook, S. A., 1196
Cooke, J. A. E., 1760, 1761, 1762
Coombe, B. G., 523, 2649, 4525, 4726
Cooper, A. J., 6758
Cooper, D. C., 3083
Cooper, G. R., 131
Cooper, W. C., 3671, 7230
Coorts, G. D., 6923
Coote, G. G., 2548
Cope, F. W., 5575, 7384
Copeland, H. W., 1311
Coppock, G. E., 1759, 3730, 7284
Corbaz, R., 1435, 3479, 5318, 7083
Corbett, M. K., 1721
Corbett, R. E., 5399
Corbett, W., 4056
Corcoran, M. R., 1649
Cordell, E. C., 4056
Corden, M. E., 1131
Cordier, L., 3856
Cordy, C. B., 2702, 6040
C.O.R.E.S.T.A., 1354
Coŗke, A. T. K., 480
Cornell University, 154, 5962
Cornuet, P., 436, 4593
Corr, B., 6905
Corrales Macedo, A., 3185, 5448, 6716
Corte, A., 4577, 6338
Cory, R., 2238
Cosmo, I., 510, 2625, 2630, 6217, 6222
Cosolo, S., 4729
Cossins, E. A., 5858
Costa, A. S., 3163, 3388, 3470, 4597, 6764
Costa, J. D. S., 5528
da Costa, M. C. H. P., 3554
Costes, C., 4090
Costilla, M. A., 1746
Costilow, R. N., 7199
Cotea, V., 4511
Cotter, D. J., 1101, 5069
Couey, H. M., 4553
Couillaud, P., 680, 6270
Coulombe, L. J., 952
Coulon, J., 2968
Coulson, E. J., 1612
Coulson, J. G., 6366
Coursey, D. G., 1996
Courter, J. W., 1110
Coutinho, J. M., 3890, 4145
Couto, F. A. A., 4978
Cowell, N. D., 6149
Cowley, G. T., 6633
Cowling, E. B., 4108
Cox, E. A., 1843, 3792, 7362
Cox, J. A., 752, 4703
Cox, J. E., 1802, 1803
Cox, J. R., 2071
Cox, R. S., 6767
Coyier, D. L., 5218
Craft, C. C., 4402, 4988
Craig, B. M., 3615
Craig, D. L., 491
Cram, W. H., 1322
Crandall, P. C., 2531, 2566, 6819
Crane, F. L., 6714
Crane, H. L., 6292, 6295
Crane, J. C., 4386, 4388
Crang, A., 947
Cranham, J. E., 2145, 4026, 4027, 7559
Crawford, D. V., 17
Crawford, T. V., 4299
Craze, S. P., 2348
Creager, D. B., 6925
Creasy, M. T., 5836
Cree, C. B., 1699, 5509
Creech, J. L., 3503
Creel, J. M., 3058
Cremaschi, D., 3431
Creveling, R. K., 3099
Crews, J. W., 5254
Cripps, J., 375
Crispin M., A., 4863
Critopoulos, P., 7062
Crittenden, H. W., 807
Crnčević, V., 4422
Crockett, S. P., 4319, 6067
Crocomo, O. J., 5642
Crooke, W. M., 6510
Cropley, R., 436, 619, 622, 625, 4582
Crosby, D. G., 47
Cross, W. E., 5724
Crossan, D. F., 1059, 3106, 6779
Crossmon, B. D., 6553
Crowe, A. D., 6104, 6105
Crowe, D., 561
Crowe, T. J., 5653, 7450
Crowther, R. F., 2551, 2679
Cruchet, P., 4832
Crüger, G., 2858, 4983, 4997, 6766
Cruickshank, I. A. M., 89, 2275, 3472
Csepregi, P., 2633, 6231
C.S.I.R.O., Australia, 155, 156, 2340, 5963
Cucchi, N. J. A., 6550
Cucu, V., 5157
Cucurachi, A., 3755
Cuevas, N. L., 1973
Culanovskaja, M. V., 36
Cullen, J., 2328
Čumakova, B. M., 2813
Cumming, B. G., 5935
Cummings, M. W., 7281
Cunningham, R. K., 5589, 7382
Currier, H. B., 80
Curry, A. N., 6466
Curry, B., 130
Curticăpeanu, G., 995
Curtis, O. F., Jr., 6058
Curwen, D., 5098
Cutright, C. R., 746
Cvasnîi, D., 4366
Cvetaeva, Z. N., 2407
Cygankov, S. K., 4666
Cyprus Department of Agriculture, 5980
Čžao, S.-D., 41
Čžu-Cty, 2690

Dacus, A. D., 931
Dadd, A. H., 1431
Dadinaki-Roussopoulou, D. A., 3764
Dadykin, V. P., 35
Daebeler, F., 768

Daguman, I. L., 1818
Dahle, N. A., 1511
Daines, R. H., 6345
Dakshindas, D. G., 4001
Dalal, V. B., 7291
Dale, I. R., 4199
Dall, M., 3653
Dall'Olio, D., 4263
Dalmasso, G., 6285
Dalziel, J. M., 148
Damiano, A., 3655
Damigella, P., 1813, 3738, 6267
Damodaran, V. K., 5666
Dănău, C., 7003
Dancer, J., 2973
Danckwardt-Lilliestrom, C. 4082
Dänhardt, W., 6937
Daniel, H., 3305
Daniel, W. H., 6899
Danilova, M. F., 4113
Danthanarayana, W., 7559
Dao D., F., 3066
Dap, B. G., 926
Darby, J. F., 804, 868, 980, 1138, 3019, 6723
Darby, L. A., 1065
Dardenne, G., 7070
Da Re, M. L., 3026
Dargan, K. S., 1004, 6690
Darkanbaev, T. B., 5262
Darley, E. F., 4049
Darling, H. S., 7165
D'Armini, M., 6456
Darrow, G. M., 475
Das, A., 4428, 4429
Das, G. M., 2129, 2147, 2149, 4021, 4022, 4023, 7560
Das, R., 1375, 3437, 7000
Dasare, B. D., 1870
Daskaloff, C., 4745
Dassu, G., 4767
Dastgir, G., 1981
Datta, D., 1538
Datta, D. D., 989
Datta, S. C., 989, 1538
Daubeny, H. A., 437, 5061
Daunicht, H.-J., 887
Dave, K. G., 2156
Davey, C. B., 4923
David, A. L., 3994
Davide, P. S., 3691
Davidescu, D., 5053
Davidescu, E., 5053
Davidson, B., 5920
Davidson, F., 3926
Davidson, H., 1309, 3396, 5113
Davidson, L., 5676
Davidson, O. W., 1266
Davies, J. C., 6602
Davies, J. N., 3136, 5092, 5093, 6666, 6667
Davies, W. N. L., 3950, 3986
Davignon, L., 381
Davis, A. C., 966
Davis, C. J., 1225
Davis, C. S., 751, 4704
Davis, D. R., 2552
Davis, D. W., 2779
Davis, E. L., 6736
Davis, E. W., 6685
Davis, G. N., 6552
Davis, J. J., 2766
Davis, R. M., 1103
Davis, R. R., 6898
Davis, T. A., 1880, 1881, 3779, 3838, 7394, 7402
Davison, A. D., 6539
Davison, J. G., 1086
Dawson, R. F., 1413, 3451
Day, B. E., 3689, 7207, 7235
Dayton, D. F., 351
Deakin, R. T., 71, 2869
Dean, F. P., 2762, 2794
Dean, G. W., 4041
Dean, H. A., 3723, 3727
Dean, R. W., 729, 6462
DeBach, P., 5491
De Baets, A., 7068
Debelyj, A. S., 2175
De Beni, P. V., 6517
Decker, G. C., 6465
Decker, J. P., 5951
Decowska, B., 1566, 7056
Dedolph, R. R., 4564, 4763
Deep, I. W., 3377
Deese, D. C., 6774
Defeo, J. J., 1549
Degman, E. S., 2698, 4314, 6060, 6082
Degry, H., 1132
Degtjareva, A. S., 2833
Deir Alla Research Station, Jordan, 4235
Deist, J., 6069, 6269
De Keijzer, R. (de Keyzer), 3211
Dekester, A., 7468
Dekhuijzen, H. M., 5927
Dekker, A. J., 6511
Dekker, J., 5903
DeKock, P. C., 1488
De Langhe, E., 1836
Delavault, R. E., 4046
Delistoianov, J., 3570
Delleré, R., 7496
Delmas, J., 3031
Deloume, M., 2636
Delphey, C. C., 1636
Delucchi, V. L., 7278
Delver, P., 303, 4306
Delvingt, W., 2823
DeMaggio, A. E., 3531
Demaret, F., 4200
Dembiński, F., 3617
Demeczky, M., 1472, 3496
Démétriadès, S. D., 1801, 3757, 3758
Demoranville, I. E., 477, 6197
Dempsey, A. H., 1052
Denby, L. G., 6739
Denis, M., 5540
Denisen, E. L., 4442
Dennis, E. B., 4668
Dennis, F. G., Jr., 328, 4380
Dent, R. G., 863, 3183
Denys, G., 5598
Deo, P. V., 2669, 3803, 7349
De Ranieri Esposito, M., 4447
Derbyshire, D. M., 3170
DeRemer, E. D., 1095, 2307
Derkunskaja, M. D., 569, 570
Dermelj, V., 3534
Dermine, E., 81, 2496
De Roo, H. C., 3430
De Rosa, M., 2685, 4561
Desai, M. K., 7564
Desai, M. V., 5324
Desai, V. G., 5708
Deshmukh, A. D., 4765, 4879, 4902
Deshpande, B. R., 6935
Desjardins, P. R., 1724
De Sloover, J., 5243, 6953
Dessart, P., 3826
Deszyck, E. J., 1763, 7241
Detroux, L., 2958, 2986, 6488
Deullin, R., 7374
Deulofeu, V., 5431
Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin, 2341
Deutscher Pflanzenschutzdienst, 4131
Dev, H. N., 2147
DeVay, J. E., 4639, 4651, 6344
Deverall, B. J., 951
Devine, E. S., 2522
Dewey, L. J., 3452
Dewey, O. R., 4129
DeWolfe, T. A., 3732, 3733, 3734
Deysson, G., 2249
D'H., M., 6855
Dhaliwal, T. S., 1915
Dhalla, N. S., 3557
Dhande, G. W., 3509
Dhar, P. K., 1583
Dhingra, D. R., 1292, 3951
Dhuria, H. S., 5470, 5471
Dhyani, K. C., 1403
Dias, M. B. G., 6370
Díaz Moreno, J., 3886
Dibble, J. E., 4727, 4943
Dicker, G. H. L., 4213, 4722, 6434
Dickey, R. D., 1782, 6911, 6930
Dickey, R. S., 4139

Dickinson, J., 4762
Dickinson, T. A., 738, 5514
Dickson, G. H., 2406, 2481
Dickson, M. H., 1029
Didario, A., 6810
van Die, J., 1091
DiEdwardo, A. A., 6942
Diener, T. O., 92, 7055
Diener, U. L., 6373
Dierks, W., 6738
Dietrich, O., 6014
Dill, P., 5026
Diller, J. D., 6298
Dilley, D. R., 308, 4329
Dillon, F. C., 7221
Dilov, C., 4839
Dimitrov, C., 6997, 6998
Dimitrov, G., 3104
Dimitrov, L., 3494
Dimock, A. W., 6843
Dimond, A. E., 1131
Dimza, I., 4334
Dinakaran, M., 1478
Dinčev, D., 6588
Dirven, J. G. P., 1821
Diskus, A., 3475, 7066
Dissanayake, A. B., 3937
Ditman, L. P., 2972, 4815
Divaret, P., 5581
Divekar, V. D., 1427
Diviš, J., 3589
Dobereiner, J., 3965
Dobroljubskij, O. K., 576, 2464, 4548
Docea, E., 995, 3105, 4640
Dodgson, G. H., 3192, 6789
Dodillet, H.-J., 4826
Dodson, C. H., 1263
Doepel, R. F., 662, 2728, 2948, 4608, 6832
van Doesburg, J., 1302, 1303, 1338, 6801
Dogger, J. R., 1254
Döhring, E., 761
Dolcher, T., 5202
Doležalová, M., 1118
Dolidze, G. V., 708
Doll, C. C., 553, 4349
Dolliver, J. S., 2997
Domasta, P., 1456
Domingo, B. S., 1914
Dommergues, P., 2412
Domokos, J., 6946
Domsch, K. H., 3466, 4926
Donadoni, S., 7004
Donadze, V. Z., 3662
Donaldson, D., 4311
Donaldson, L. A., 5860
Doneaud, A., 4302
Dongo D., S. L., 6595
Donoho, C. W., Jr., 4352
Dorado, E., 7184
Dore, P., 7337
Dormal, S., 2286, 2914, 4150
Dorsman, C., 1294, 4056, 4208, 5212, 6798
Dosse, G., 2692
Doub, A., Jr., 6964
Doucette, C. F., 1230, 6873, 6926
Doughty, C. C., 6198
Douglas, W. S., 2523
Douillet, J., 1560
Dow, J. M., 850
Dowdles, D., 1333
Downes, J. D., 2572, 2575, 4772, 4963
Downs, R. J., 1687, 5951
Dowrick, G. J., 501
Doyle, W. P., 5094
Dragaš, M., 6226
Dragavcev, A. P., 506
Dragon, J., 7020, 7033
Drăgut, G., 5014
Drake, M. G., 4953
Drake, R. J., 3711, 5439
Drawert, F., 4549
Drechsler, C., 6596
Dressler, R. L., 6921
Drever, H. R., 4178
Drew, W. H., 408
van der Drift, J., 100
Drimuș, R., 756
Drinkwater, W. O., 1110
Dronamraju, K. R., 1318
Dropkin, V. H., 3416
Drost, K., 5387
Drouzy, J., 3007
Droździ, B., 5388
Druzianich, E., 3616
D.S.I.R., New Zealand, 172, 173
Dubinina, I. M., 42
Dublin, P., 5791, 7436
Dubrova, V. P., 2259
Ducet, G., 4166
DuCharme, E. P., 1734, 3717, 3718
Duckett, J. E., 2019
Dudani, G., 1693
Dudman, W. F., 6277
Duffek, J., 792
Dufour, P. S., 7337
Dukat, V., 1468
Dullforce, W. M., 969
Dullum, N., 2402
Duloy, M. D., 2236
Dumitrescu, M., 4189
Dumont, G., 5420
Dunckelman, P. H., 2076
Dunham, C. W., 5246, 5247
Dunkel, K.-H., 4950, 6559
Dunlap, W. J., 3743
Dunn, E., 5572
Dunn, S., 78, 958, 2981
Dupaigne, P., 431
Durairaj, D. J., 7529
Duran, R., 1770, 5499
Durgeat, L., 6705
Durham, W. F., 2830
Durkee, A. B., 2515
Duschin, I., 4700
Dustan, G. G., 2803, 4658
Dutkiewicz, A., 5333
Dutt, A. K., 5464
Dutt, S. C., 5495
Dutta, A. B., 5396
Dutta, K. N., 4008
Dutta, P. K., 3564, 5398
Dutta, S. K., 2121, 2125, 2130, 2132, 2133, 4010, 4028, 7536, 7541, 7543, 7546, 7550
Dutton, G. G. S., 320, 2478
Duvekot, W. S., 4418, 6134
Duysen, M. E., 2245
Dvornic, V., 4500, 4529, 4530
Dwarkanath, C. T., 1496
Dyar, J. J., 2208
Dybing, C. D., 80
Dye, M. H., 5078
Dykstra, T. P., 2185
Džemuhadze, K. M., 2152
Dzieciol, W., 353, 354
Džiljanov, L. D., 5468

Eagle, H. E., 2204, 6586
Eaks, I. L., 5502, 7287
Ealy, R. P., 1275
Eames, A. J., 147
East African Agriculture and Forestry Research Organization, 4231
East African Industrial Research Organization, 4232
East African Tea Research Institute, 2107
East Malling Research Station, 4213
Eastwood, T., 6846
Eaton, E. L., 474
Eaton, G. W., 2503
Eaton, H. J., 389, 6126
Eaves, C. A., 6166, 6585, 6781
Ebben, M. H., 5118
Ebeling, W., 5442
Echandi, E., 1928, 1932
Eckert, J. W., 5501, 6284, 6780, 7292, 7293
Economides, C. V., 2164
Edelman, J., 4095
Ėdel'štejn, V. I., 4735
Eden, D. R. A., 5614
Edgerton, L. J., 276, 328, 367, 368
Edgington, L. V., 829, 1131
Edinburgh School of Agriculture, 2342, 5964

Edmund-Jones, G., 601
Edney, K. L., 2544
Edward, I. L., 5580
Edwards, B. A. B., 2785
Edwards, C. A., 5912, 6598
Edwards, D. F., 5578, 5590
Edwards, J. A., 1685
Edwards, O. E., 1519
Edwards, R. L., 993
Efford Experimental Horticulture Station, 157
Efremova, T. G., 4860
Egan, B. T., 2065, 2075, 5735
Egberts, H., 6929, 6949
Eger, G., 3033, 6665, 6673
Egerer, A., 3412, 5255
Eggenberger, W., 2670
Eggert, D. A., 3150
Eggert, F. P., 302
Eggins, H. O. W., 1996
Eglinton, G., 4167
Eglitis, M., 3327
Egorova, E. M., 5849
Eheart, J. F., 4762, 5925
Ehlig, C. F., 459
Ehrencron, V. K. R., 1821
Ehrendorfer, K., 3101
Ehrenhardt, H., 6455
Ehrle, L., 5038
Eichhorn, J. L., 1719
Einset, J., 4527
Ekambaram, C., 3984
Ekanayake, D. T., 1149
Ekholm, S., 968
Elam, F. L., 403
Elek, É., 5011
Éles, Z., 2385
Elgindi, D. M., 3177
Elias, A. L., 2119, 2143
Elías Castillo, F., 2171
Eliasson, L., 5866
Ellenberger, C. E., 4591
Ellertson, F. E., 2764
Elliot, E. S., 1225
Elliott, D., 1150
Ellis, C., 6600
Ells, J. E., 5067
El-Mahmoudi, L. T., 3785
Elmore, C. L., 6897
Elmore, J. C., 858
Elmosa, H. M., 1013
Elsasser, T. A., 5550
Elsocht, P., 3584
Embleton, T. W., 1699, 1701, 3637, 5509, 7231
Emch, F., 6261
Emiliana, G., 4647
Emmert, E. M., 1094
Emmert, F. H., 4170
Emsweller, S. L., 6870
Enăchescu, G., 4916, 4998, 5090
Endemann, W., 3412
Enercan, S., 1471, 3458
Engel, D., 4192
Engel, G., 2493
Engel, H., 6468
Engel, R., 6885
Engelhardt, M., 4865
Engle, H. B., 1370, 6986, 7019
Enzie, J. V., 330, 382
Eperjessy, E., 1545
Epperson, G. R., 6048, 6049
Ercolani, G. L., 763, 3168, 5070
Eremin, G. V., 2422, 2450
Erickson, E. A., 3396
Erickson, L. C., 1772, 3682, 5508, 7252
Eriksen, E. K., 272
Erion, 6909
Ermakov, E. I., 29
Ernst, M., 2873, 4776
Eršova, A. V., 2937
Esau, K., 4201
Escande, M., 6252
Eschenwald, A., 3895
Escober, T. R., 3956
Escritt, J. R., 1247, 4208, 6888, 6890
Esipova, G. S., 560
Espinosa, F. M., 5639
Esteves, A. B., 1939, 3860, 3896, 5422, 5621, 7458
Estey, R. H., 5934, 6182
Estioko, B. R., 5743
Ethirajan, A. S., 3997
Ettershank, G., 5326
Eucarpia (Association Européenne pour L'Amélioration des Plantes), 436
European and Mediterranean Plant Protection Organisation (E.P.P.O.), 2267, 7061
Evangelisti, A., 6087
Evans, E. J., 6511
Evans, G., 5113
Evans, H., 5728
Evans, L. J. C., 5571
Evans, L. T., 5933
Evans, S. A., 4208, 5212
Evans, W. R., 14
Evenhuis, H. H., 718, 6410
Evéquoz, M., 417
Everett, H. F. M., 6193
Everett, P. C., 5242
Everett, P. H., 1085, 1089, 6564
Evers, C., 7371
Everson, N. O., 3426
Evert, R. F., 321, 2480
Evlahova, A. A., 6448
Evreinoff, V.-A., 2383, 2604
Evtušenko, G. A., 62, 1399
Eynard, I., 2640, 6230
Ezell, B. D., 6533

Faber, H., 2858
Fabris, H. A., 5171
Fadigas, M., Jr., 2971
Fahn, A., 3799
Fairbairn, C. B., 6888
Fairbairn, J. W., 7128
Fairfield Experimental Horticulture Station, 158
Fajs, D., 2254
Fakhr, M. S. S. A. A., 2959
Falanghe, H., 6675
Falch, J., 259, 434, 2492, 2537, 2597
Falcon, L. A., 4676, 6400
Fallows, J. C., 3931
Fandiño, D. S., 733
Fang, S. C., 56, 6619, 6620
Fang, S.-D., 4849
FAO, *see* Food
Farhadi, I., 558
Farkas, G. L., 5403
Farmilo, C. G., 1578
Farnham, R. S., 5105
Farnsworth, N. R., 1550, 7147
Farwell, F. E., 5721
Fassuliotis, G., 4179
Fast, G., 1267, 5201, 6915, 6916
Fatta del Bosco, G., 326, 5996, 6019
Fatus, G. K., 3433
Faulkner, G. J., 4780
Faure, R., 6108
Favilli, R., 4078, 4739
Favre, C., 417
Favre, R., 4832
Fawcett, C. H., 2272
Feder, W. A., 3719, 7262, 7266
Fedorenko, V. S., 6088
Fedorinčik, N. S., 3714
Fedorov, A. A., 5361
Fedotenko, V. A., 7097
Fekete, Z., 2463
Feldman, A. W., 1731, 1734, 1735, 3718
Feldmesser, J., 3719
Felius, P. M., 211, 2499, 4300
Felizardo, B. C., 3691
Feng, P. C., 1542
Fenne, S. B., 3484
Fennema, O., 2974
Fenner, T. L., 2810
Fenske, C. S., 1502
Fenton, A., 6531
Fenwick D. W., 5626
Feofanova, N. D., 1111
Ferencz, V., 5054
Ferenczi, S., 528, 4550
Ferguson, H., 2108, 2123
Ferguson, S. W., 314
Fernandes, S. J. G., 4423, 5884
Fernandes, V. T., 5304
Fernandes Costa, A., 3542, 3552, 3627

Fernández, C. E., 1917, 1921
Fernández, J. J., 3652
Fernie, L. M., 3864, 7416, 7417
Fernqvist, I., 2405, 2513, 2596
Ferrão, A. da F., 3889, 7448
Ferrão, J. E. M., 5798
Ferraz, E. C., 4958, 6677
Ferree, R. J., 2474
Ferreira, A. M., 2969
Ferri, F., 658, 2733
Fesani, I., 4739
Fetisov, G. G., 6098
Feucht, J. R., 1273
Feucht, W., 2482
Feuersenger, M., 2858
Feyerabend, G., 4124
Fiala, V., 3590
Fidler, J. C., 2261
Fiedler, W., 2441
Fields, R. W., 6629
Figaro, P., 2411
Figueiredo, M. B., 4145
Figueroa, M., 7460
Fijałkowski, D., 5364
Fikiin, A. G., 8
Filippenko, I. M., 2646
Filippov, L. A., 1116
Filius, I., 2847
de Fina, A. L., 4
Finch, C. G., 2875
Finney, D. J., 4158
Firman, I. D., 7437
Fischer, H., 2235, 2692
Fischer, W. N., 4564
Fisher, C. D., 581
Fisher, D. V., 2404, 2430
Fisher, E. G., 281, 311, 2726, 4332, 6158
Fisher, H. H., 1856
Fisher, J. M., 2759
Fisher, V. J., 301, 6050
Fisons Fertilizers Ltd., 159
Fitzpatrick, R. A., 5119
Fitzpatrick, R. E., 628
Fizzell, J. A., 5949
Fjäderhane, A. M., 5803
Flament, G., 6803
Flegg, P. B., 2345, 3038, 3040, 4946, 6669
Flémal, J., 5767
Fleming, H. K., 304, 2472
Fleming, J. W., 568, 889, 5208
Fleming, W. E., 4144
Flemion, F., 2486
Fletcher, H. R., 3363
Fletcher, R. F., 6749
Fletcher, W. A., 472
Fletcher, W. W., 208
Flint, H. L., 5238
Flipse, L. P., 4335
Flocker, W. J., 1097, 1098, 5059, 6746
Floor, J., 2446, 3203
Florczak, K., 6990
Floreal Márisco, D., 1786
Flores, A. B., 3467
Florida Agricultural Experiment Stations, 192
Florov, B. P., 249
Fochessati, A. P., 1748
Fogg, J. M., Jr., 5248
Fogle, H. W., 2442
Foguet, J. L., 3652
Foister, C. E., 85
Folley, R. R. W., 406, 4250, 5992
Fomenko, Ju. E., 6089
Fonseca, J. P., 5632
Fontanilla-Barroga, S., 7385
Food and Agriculture Organization of the United Nations (FAO), 149, 2034, 2183, 2333, 7327
Foote, F. J., 7222
Forbes, I. L., 2077, 3378
Forbes, R. B., 986
Ford, E. M., 4614
Ford, H. E., 1161
Ford, H. W., 1657, 7262, 7266
Ford, Z. T., 3415, 5258
Fordham, A. J., 1336
Forestier, J., 5638
Forrest, W. D., 5739
Forsberg, J. L., 5164
Forshey, C. G., 6158, 6309
Forster, R., 1923
Forte, V., 213, 598, 5995, 6022
Forti, R., 6217
Fortier, F., 458
Fortmann, H., 5811
Foschi, S., 4476, 6550, 7078
de Fossard, R. A., 3171, 5496
Foster, R. E., 6560, 6636
Foulds, E. L., 4966
Fountain, J. B., 4411
Fowden, L., 5517
Fowler, T. E., 228, 6006
Fox, C. J. S., 861
Fox, D. F., 2849
Fox, E. H., 2079
Fox, R. A., 7493
Foytik, J., 2381
Fraisse, A., 5674
Francis, F. J., 478, 4845, 4848
Francki, R. I. B., 7052, 7053, 7054
Franco, C. M., 5538, 5648
Frankland, B., 590
Franklin, D. F., 6697
Franklin, E. W., 848
Franz, G., 4105
Franz, J. M., 2692, 2767, 6430
Frappell, B. D., 2975, 6136
Fraselle, J. V., 7071
Fraser, L. R., 1718, 6340
Frazelle, J., 7440
Frazer, D. A., 5951
Frazier, N. W., 6328
Frazier, W. A., 4883
Freebairn, H. T., 3800
Freedman, S. O., 1942
Freeman, G. H., 495
Fregoni, M., 6081, 7215
Freitag, J. H., 6496
de Freitas, F. C., 6710
Frémond, Y., 3843, 3844
French, B. C., 4738
French, D. W., 6918
French, R. C., 5815
French, S. A. W., 5868, 6532
Frenzel, B., 2239
Fresa, R., 2737
Freshwater, I. T., 3947, 3979
Freudenreich, R., 6991
Freyre, R. H., 1500, 7181
Fric, V., 3605
Frick, E. L., 4614
Frick, K. E., 3566
Fridley, R. B., 4415, 4416, 4639
Fridley, R. W., 396
Fridlund, P. R., 2712
Friedrich, G., 252, 2443
Fries, H., 1347
Friesdorf/Bad Godesberg, Gärtnerischen Versuchsanstalt, 2343
Friess, H., 6385, 6460
Frimmel, F., 2916
Frith, L. H., 822, 6579
Fritsche, G., 3032
Fritz, D., 6656
Fritz, P. D., 4745
Fritzsche, R., 2858
Fritzsche, W., 3279, 3343, 5142, 6811, 6879
Fröhlich, H., 2897, 4754, 4791, 4834, 4872, 4909, 4981
Frohner, W., 4330
Frolich, E. F., 6037
Frossard, P., 5552
Frost, H. B., 3261
Fry, B. O., 4470
Frydrych, J., 2870, 3013, 3094, 6712
Fryer, L., 6612
Frymire, G. P., 1263
Fuchinque, H., 4005, 5785
Fuchinque, Y., 5785
de la Fuente, R. K., 3847
Fuentes N., E. F., 3893
Fujita, K., 1767
Fujiwara, A., 3450
Fukala, E., 2921, 5938
Fukuda, J., 857
Fukuzumi, T., 3495
Fuller, D. J., 3275
Fulton, J. P., 4851
Fulton, R. H., 671, 5551
Funk, T., 278

Furmidge, C. G. L., 132, 4136
Furner, B. G., 903
Furon, V., 7209
Furr, J. R., 3664, 7263
Furusawa, M., 3459
Furuta, T., 1308
Furuya, K., 5788
Furuya, M., 5856
Fushtey, S. G., 5194
Fusz, F., 2190
Futh, G., 4280

Gabovič, V. I., 539
Gabrielson, R. L., 6549
Gachon, L., 4317
Gacoka, P., 7430
Gadžiev, G. Ê., 2774
Gagliardi, N. C., 4886
Gaie, W., 3865
Gair, R., 6626
Gajdin, M. I., 6026
Gale, J., 16, 5839
Galetenko, S. M., 2799, 2802
Gallatin, M. H., 929, 2960
Gallay, R., 513, 2627, 6221, 6234
Gallizia, A., 5316
Gallo, J. R., 567, 3699
Galloway, A. L., 4128
Gallucci, M. M. R., 2731
Galmarini, O. L., 5431
Galston, A. W., 5856
Galun, E., 893, 6558
Galusinschi, A., 4719
Gálvez, G. E., 3985, 7519
Galvez, N. L., 3691
da Gama, M. V., 2302
Gambarjan, G. S., 2754
Gamero de la Torre, O., 3185, 7271
Gammon, E. T., 5911
Gammon, N., Jr., 2688
Ganapin, J. G., 992
Gandar, J. C., 4917
Gandhi, S. C., 18
Gandia, H., 7478
Gandy, D. G., 6669
Gane, A. J., 4906
Gangolly, S. R., 1879, 1961
Ganguly, D., 7144
Garavini, C., 3284
Garb, S., 50
Garber, E. D., 5311
Garber, K., 4071, 5811
Garber, M. J., 723, 1692
Garbosky, A. J., 4
Gardner, A. F., 990
Gardner, F. E., 1669, 1712, 5453
Gardner, R., 2348, 6667
Gardner, V. R., 283
Garg, M. L., 1970
Garimov, U. A., 2946
Garjugin, G. A., 6062
Garman, P., 6411
Garnaud, J.-C., 4202
Garner, R. J., 4056, 4208, 4279
Garoglio, P. G., 6281
Garraway, J. L., 5870
Garren, R., Jr., 465, 2570
Garrestsen, F., 4168, 4792
Garrett, R. G., 4941
Garrison, R., 3403
Garrutti, R. S., 7454
Gärtel, W., 575, 2672, 2693, 4547
Gartenwelt, 3306
Garthwaite, J. M., 2925
Gartner, J. B., 1192, 3205, 6923
Gaskins, M. H., 7463
Gaston, H. P., 2528
Gates, C. T., 3702
Gates, L. F., 5312, 7048
Gattoni, L. A., 4035
Gaudineau, M., 611
Găureanu, I., 5031
Gavalas, N. A., 3757, 3758
Gavrilenko, V. F., 4092
Gay-Bellile, F., 680, 6270
Gayford, G. W., 334
Gayner, F. C. H., 2272, 4430
Geard, I. D., 963, 3016
Gehring, F., 3228
Geisler, G., 533
Geissler, K., 3089
Geissler, T., 6750
Gej, B., 7104
Gellatley, J. G., 940, 6782, 7276
Gembloux, Station de Recherches de l'État pour l'Amélioration des Plantes fruitières et maraîchères, 436, 2344
van Genderen, H., 2286
General Dynamics Corporation, 5948
General Scientific Equipment Co., 4059
Genevois, L., 2263
Genkel', P. A., 5057
Genkov, G., 4961, 4980, 4982, 4984
Gensler, K., 3212
Gentner, W. A., 5871
Gentry, H. S., 5394
Genty, M., 6278
Genung, W. G., 6502
George, J. A., 4586
George, K. S., 6626
Georgescu, E., 1474
Georgescu, I. M., 4521, 4522
Georgia College of Agriculture Experiment Stations, 4214
Georgiev, D., 4839
Georgopoulos, S. G., 1130
Geraldson, C. M., 1089
Gerard, C. J., 931
Gerasimenko, I. I., 1601, 3530
Gerlach, J. C., 3787
Gerloff, G. C., 1422
Germing, G. H., 5019, 5034
Gerola, F. M., 4767
Gerrits, J. P. G., 6670
Gersons, L., 222
Gerstenfeldt, H., 5924
Gerwe, R. D., 410
Gessel, S. P., 5951
Gesundheit, Z., 6641
Getchell, J. S., 6005
Gfeller, F., 2978, 4903
Ghena, N., 288
Gheorghiu, E., 4723
Gherghi, A., 3381, 4391, 4396, 4401, 4453
Ghidia, A., 5047
Ghisleni, P. L., 3191, 4739
Gholston, L. E., 4319, 6067
Giacomelli, R., 7328
Giacometti, D. C., 1723
Giannotti, O., 5918
Gibassier, P., 3189
Gibbs, A. J., 6605
Gibson, I. A. S., 7554
Giddings, J. L., 5951
Giesen, H. J., 839
Gifford, E. M., Jr., 2723
Gilbert, F. A., 2473
Gilbert, J. C., 1070
Gilchrist, J. W., 6820
Gill, D. L., 1229, 1321, 3304, 3400
Gill, L. S., 5894
Gilles, G. L., 436
Gilmer, R. M., 2708, 2711, 2713, 6325
Gilmore, L. E., 3429
Gindel, I., 3877
Ginsburg, L., 2539, 2542, 6167
Giorgi, E., 7316
Giorgi, R., 1817
Giovannozzi, M., 1465, 3497
Giovannozzi-Sermanni, G. 1410
Giral, F., 3540
Giraldi, G., 1440
Giraudel, A., 7049
Giri, K. V., 1565
Gislason, C., 409
Giuglaris, A.-L., 3501
Giulivi, C., 838
Giunchi, P., 6450
Giussani, G., 5305
Gjærum, H. B., 4617
Glancey, B. M., 103
Glaria, O. H., 3652
Glas, A., 4357
Glaschke, B., 3007
Glasgow, S. K., 3518

Glass, E. H., 4685, 6437, 6461
Glasshouse Crops Research Institute, Littlehampton, 2345
Glasziou, K. T., 2096, 5748
Glavinič [Glavinitch], R., 1047, 5025
Gleisberg, W., 3306
Glendinning, D. R., 5578, 5597
Glenn, E. M., 4297
Globa-Mihajlenko, D. A., 1629
Glock, W. S., 5951
Glover, P. M., 2121, 2123, 2125, 2130, 2144, 2149
Gluščenko, I. E., 3111, 4782
Goberdhan, L. C., 1889
Godara, P. S., 5793
Godbey, W. G., 4164, 4578
Goddard, G. B., 1343
Goddrie, P. D., 286, 486
Godhania, A. L., 3954
Godoy, C., Jr., 7425
Godoy, O. P., 7425
Goedecke, H., 5805
Goedegebure, L., 438, 454, 492, 4491
Goedkoop, W., 7176
Goenaga, A., 1202
Goffart, H., 2858, 6671
Goheen, A. C., 2721, 2724
Göhler, F., 4830
Goidánich, G., 685, 2506, 3160
Gokhale, N. G., 2117, 2123, 2134
Golato, G., 1847
Gold, H. J., 6551
Goldacre, P. L., 47, 48
Golden, L. E., 5730
Goldsmid, J. M., 7264
Goldsworthy, P. R,, 4186
Goldwater, L. J., 4716
Golubkova, A. S., 323
Golumbic, C., 581
Golyšin, N. M., 6377
Gomez, L. M., 1524
Gómez Campo, C., 2210
Gončar, A. L., 1399
Gondár, E., 3496
Gontarenko, M. A., 2796
Gonzales, A. L., 7405
Gonzales, L. G., 1818
Gonzales, L. T., 7569
González Molina, C. L., 1372, 6983
González-Vélez, F., 7011
Good, J. M., 806, 3049, 3178
Good, N. E., 5886
Goodall, D. W., 1360, 1386, 1392
Goodchild, N. A., 4007, 5756, 7554
Goode, M. J., 937, 4743, 5029
Goodman, P. J., 1393
Goodman, R. N., 4353, 5375
Goodwin, J. R., 1249, 1330
Goonewardene, H. F., 1891
Goos, R. D., 1843, 3792, 5560, 7362, 7367
Gopalachari, N. C., 3445, 5270
Gopalakrishnachar, S., 7501
Gopalkrishna, N., 2669, 3803, 5671, 7349
Gopalkrishnan, K. S., 1565
Gopinath, D. M., 3418
Gordon, P. N., 1202
Gordon, W. C., 5197, 6867
Gorin, T. I., 294
Gorinova, Ju. V., 2738
Gorlenko, M. V., 6497
Gorman, M., 5392
Gorrez, D. D., 1855
Gorter, C. J., 2982
Gortner, W. A., 2006
Goss, O. M., 2728, 2903, 5154
Goss, R. L., 1251, 3327
Gosselink, J. G., 7463
Gottschall, V., 2983
Götz, B., 2693
Goudie, A. J., 4163
Gould, C. J., 1251, 3293, 3312, 3314, 3327
Gould, G. E., 860
Gould, H. J., 4667, 4928, 6445
Gould, R. F., 60
Gouny, P., 4482
Gourley, C. O., 666, 4632
Govi, G., 6361
Govindachari, T. R., 5359
Gowing, D. P., 3921
Gozob, T., 4379
Gracza, L., 6725
Gräfe, H.-K., 6509
Graham, S. O., 1260
Graham, T. W., 3414, 3415, 5258
Grainger, J., 1115, 5062, 5900
Gramolin, V. K., 277, 336
Graner, E. A., 7425
Granier, J., 2862
Grant, T. J., 1721, 1722
Gras, R., 291, 2456
Grassland Research Institute, Hurley, 118
Graves, C. H., Jr., 4635, 4652, 6375, 6376
Gray, A., 1232
Gray, A. W., 3309, 4056
Gray, D. O., 5517
Gray, L. S., 2885
Gray, R. A., 5853
Gray, R. W., 4188
Grayson, J. M., 747
Green, D. H., 4881
Green, H. C., 6128
Green, H. T., 5322
Green, J. A., 3170
Green, M. J., 7538
Green, R. J., Jr., 3565
Greenblatt, G., 1727
Greene, G. L., 663, 5560
Greenfield, I., 1253, 6404
Greenhalgh, W. J., 2448, 4286
Greenham, D. W. P., 4305
Greenway, P. J., 4199
Greenway, S., 2094
Greenwood, C. T., 4915
Gregory, G. R., 552
Gregory, P. J., 1896, 3836
Greig, J. K., 1063
Grieg, W. S., 6004
Greiner, L. M., 6507
Grente, J., 588, 589, 667
Grewal, K. S., 1696
Greweling, T., 5921
Grice, W. J., 4012, 7535
Grierson, W., 504, 1763, 1765, 3728, 7285, 7288, 7298
Griesbach, K., 4197
Griffin, J. E., 1164
Griffin, J. F., Jr., 6912
Griffith, G. D., 3453
Griffith, T., 5290, 7038
Griffiths, A. E., 3123
Griffiths, J. T., 3677, 5485, 7226
Griffiths, L. A., 1833, 5615
Griggs, W. H., 358, 4287, 6310
Grigorov, S. P., 4893
Grimaldi, J., 7381
Grimsbo, N. H., 269, 4841
Grišina, G. S., 2234
Grison, C., 3468
Grncarevic, M., 6277
Groenewegen, H., 3702
Groenewegen, J. H., 6753
Grogan, R. G., 3018, 3087, 4940, 5075
Grohs, B., 3357
Gromová, Z., 1056
de Groote, R., 1307
Gröschner, P., 4789
Grosclaude, C., 660
Grosjean, J., 661
Grosse-Boes, J., 2311
Grosse-Brauckmann, E., 4180, 4752
Grossmann, F., 3173, 5082, 6775
Groszmann, H. M., 3767
Grouet, D., 3320, 6866
Groven, I., 2594, 2598
Grover, P. N., 7107
Gruber, F., 436
Gruen, H. E.. 3042
Gruis, J. T., 6845
Grümmer, G., 1125
Gründler, J., 3281
Gruppe, W., 2577

Grušvickij, I. V., 3545
Grynberg, H., 7193
Gualaccini, F., 4587, 7255, 7259
Guard, A. T., 1108
Guba, E. F., 1040, 3093, 6736
Gubanova, Z. P., 3126
Gubańskii, M., 5076
Gudzenko, A. A., 6029
Guérillot-Vinet, A., 1038
Guerineau, C. M., 5706
Guest, R. W., 6124, 6138
Guevara, V. F., 1877
Guevara C., J., 4894
Gugnoni, G., 6977
Gugušević-Lazić, M., 4422
Guignard, E., 757
Guilbeau, W. F., 5711
Guillemet, F. B., 3099
Guillemot, J., 5545
Guillot, M., 6108
Guillot, R., 572
Guimberteau, L., 2003
Guinn, V. P., 5915
Gukasov, A. I., 546
Gukova, M. M., 2990
Guljakin, I. V., 4074
Gulubov, S., 5274
Gunar, I. I., 4085, 5050, 5861
Gunckel, J. E., 5302
Gunderson, H., 6868
Gunn, J. S., 1988, 5677, 7470
Gunning, B. E. S., 52
Gunstone, F. D., 5859, 7185
Günther, E., 1125, 4790
Gunther, F. A., 2286, 7279, 7280
Gupta, A. S., 1613
Gupta, G. N., 1292
Gupta, O. P., 7506
Gupta, P. K., 1530, 2517, 2563
Gupta, P. S., 3439
Gupta, R. A., 2042, 5716
Gupta, S. C., 6322, 7109
Guram, M. S., 4959
Gurlev, A. S., 2951, 6576
Gursansky, J. A., 1026
Gustafson, C. D., 1642, 3642
Guthrie, F. E., 1446, 7094
Gutter, Y., 3715
Guttridge, C. G., 436
Guyer, G., 5192
Guyot, H., 7351
Guyot, L., 3189
Guzeev, G. F., 4699
de Guzman, E. de V., 5831
Guzman, V. L., 4817, 4819
Gužova, N. V., 4092
Gwynn, R., 1371
Gwynne, M. D., 7476
Gyuró, F., 2451, 2497

Haack, E., 5377
Haarer, A. E., 7408
Haarer, A. R., 3869
Haas, J. H., 3270
Haasis, F. A., 3384, 6957
Haber, A. H., 4114
Habibrahmanov, H. H., 6618
Habibullin, Š. A., 6025
Habran, R., 6693, 6823
Hačatrjan, S. S. 6211
Haccius, B., 59
Hack, H. R. B., 4065
Hadwiger, L. A., 908
Hægermark, U., 676, 789
Hafez, M., 2908
Hagedorn, D. J., 2984, 6627
Hagen, A. F., 942
Hagen, G. L., 5302
Hagiya, K., 5233
Hagley, E. A. C., 3850
Haglund, W. A., 2994, 2996, 4922, 6628
The Hague, Ministerie van Landbouw, 167, 5955
Haigh, J. C., 818, 3007
Hajek, J., 2924
Hájková, I., 1551, 3529
Hakkaart, F. A., 6826, 6827
Hale, P. W., 583
Hale, V. Q., 25, 5466
Halevy, A. H., 892, 1216, 7247
Hall, B. J., 552, 2853, 6617
Hall, C. B., 872, 1147, 4817, 4819, 5099
Hall, C. V., 908, 1063, 4861
Hall, C. W., 3895
Hall, D. M., 5860
Hall, E. G., 2547, 2548, 6168
Hall, H., 3266
Hall, I. M., 859
Hall, I. V., 2586, 2587, 6196
Hall, J. L., 5291
Hall, M. T., 3318
Hall, T. H. R., 3824
Hallemans, A., 4654
Halliday, D. J., 2206
Halmos, S., 3807, 7365
Halsey, D. D., 522, 566, 1690
Halsey, L. H., 1071
Halvorson, R. L., 7244
Hamer, A. A., 5883
Hamilton, A. J., 4802
Hamilton, H. G., 7297
Hamilton, J. M., 6343, 6360
Hamilton, R. A., 1911, 3900, 5519, 7200
Hamilton, R. J., 4167
Hamlin, S. A., 655
Hammarlund, A., 4913
Hammer, O. H., 6796
Hamner, C. L., 3153, 3268, 3269, 5063
Hams, A. F., 96, 3017
Hamson, A. R., 3127
Hanan, J. J., 1200, 5828, 6843
Hanaoka, T., 1000
Hance, K. P., 6867
Hancock, B. L., 5611
Hancock, C. R., 54, 4348
Handa, K. L., 1519, 1552, 1564, 1615, 1623, 3520
Haney, W. J., 1152
Hanger, B. F., 3862
Hanger, F., 3361
Hanks, R. W., 3717
Hanna, G. C., 1142, 5088, 5091
Hannah, L. H., 4804
Hansen, A. J., 5603
Hansen, C. J., 6293, 6294
Hansen, E., 3321, 6154
Hansen, H., 4432, 6151
Hanson, K. R., 1417
Hanson, S. W. F., 2325
Hantschke, D., 3227
Haq, K. A., 1980, 1981, 1982, 1984
Hara, T., 5788
Harada, H., 5127
Harada, N., 2684
Harada, S., 2112, 2113, 2115, 5764, 5765, 5772
Harata, J., 415, 6150
Harborne, J. B., 5211
Hardenburg, R. E., 413
Hårdh, J. E., 4038
Hardin, J. W., 7116
Harding, J. A., 914, 4892
Harding, P. R., Jr., 1769, 5500
Harding, R. B., 1700, 7229, 7237
Hardjito, V., 7494
Hardy, J., 3264
Hardy, J. E., 2277
Hardy, N. H., 7177
Harjung, M. K., 5475
Harkema, D. J., 2303
Harkness, J. L., 5212
Harkness, R. W., 7208, 7309
Härle, A., 5805
Harries, F. H., 697, 701, 943, 6651
Harrington, A. H., 409
Harrington, F. V., 6678
Harrington, H. L., 6113
Harrington, J. F., 788
Harris, E. D., Jr., 6502
Harris, G. H., 1044
Harris, G. P., 1164
Harris, J. B., 3440
Harris, N., 2516
Harris, R. E., 3385, 4301
Harris, R. V., 2027, 3578, 4213
Harris, W. B., 2653, 4374
Harrison, B. D., 6397
Harrison, D. E., 978, 3244
Harrison, D. J., 1120, 5039
Harrison, J. M., 1327
Harrison, K. A., 1126

Harrison, R. A., 2282
Harrow, K. M., 755
Harrow Research Station, Ontario, 4215
Hart, S. M., 5510
Hartley, G. S. 4129
Hartman, L. M., 6966
Hartmann, H. D., 4936
Hartmann, H. T., 5522, 7315
Hartsema, A. M., 5167, 5183
Harvey, H. L., 1720
Harvey, J. M., 605, 6652
Harvey, M. J., 1204
Hasan-Iljas, B., 830
Hashimoto, H., 1597
Haskell, G., 2611
Haslam, R. J., 3419, 5260
Hasselo, H. N., 3797
Hassler, F. J., 3493, 5283, 7102
Hathi, K. G., 3954
Hattori, Y., 2879
Haun, J. R., 1856, 3499
Havis, A. L., 6110
Hawaii Agricultural Experiment Station. 193
Hawaiian Sugar Planters' Association, 5701
Hawkins, J. E., 6064, 6454
Hawks, S. N., 5264
Hawksworth, F. G., 5894
Haworth, F., 835, 1020, 4161, 4787
Haworth-Booth, M., 1293
Hawthorn, L. R., 1032
Hawthorne, P. L., 4446, 6378
Hay, R., 5212
Hayami, K., 2475
Hayase, H., 882
Hayden, J. L., 1295
Haynes, L. J., 1542
Hayslip, N. C., 6783
Hayward, F. W., 1765, 5494, 7288
Hazanov, V. S., 5841
Hazina, E. P., 1053
Heald, D. P., 6818
Heath, O. V. S., 33, 3055, 5936
Heathcote, G. D., 6605
Heaton, E. K., 596, 6600
Heber, U., 5843
Hecht, E. I., 5319
Hedden, O. K., 690, 1323, 5234
Hedgcoth, C., 4933
Heebink, T. B., 386
Heeckt, O., 4794
Heeney, H. B., 241
Hegedüs, Á., 524
Heggestad, H. E., 7047
Heiber, H., 6002, 6015
Heilman, M. D., 2882
Heimann, H., 27
Heimann, M., 6952
Hein, A., 1119, 2858, 6763, 6766
Heinich, F., 2844
Heinicke, D. R., 4342
Heinis, J. L., 5477
Heinisch, K. F., 3939
Heinisch, O., 5000
Heinrich, W. O., 5651, 5654
Heinze, W., 2931, 3156
Heissner, A., 2312
Helle, W., 1172, 3366, 6856
Hellier, D. N., 1424
Hellmers, E., 3226
Hellmers, H., 5951
Hellyer, A. G. L., 1150, 3188
Helson, G. A. H., 862
Helson, V. A., 6708
Helton, A. W., 2717, 2742, 4636, 4637, 4638, 6313, 6331
van Helvoort, P., 6352
Hely, P. C., 7276
Hemerik, J., 4175
Hemingway, J. S., 3515
Hemy, C. D., 6474
Hendershot, W. F., 4052
Hendershott, C. H., 3677, 3678, 5456, 7226
Henderson, R. G., 7084
Henderson, W. R., 3118
Hendlin, D., 5853
Hendrickson, J. B., 5380, 5381
Hendrickson, R., 3745, 7303
Hendrix, J. W., 1429
Henkel, A., 2897, 4791, 4834, 4872, 4909
Henmi, S., 843
Henneberry, T. J., 700, 1283, 1284, 1290, 3375, 3376, 5907
Henning, U., 2025
Henrard, G., 3147, 6755
Hensley, S. D., 2089
Hensz, R. A., 3669, 3706
von Hentig, W.-U., 3306, 6791, 6799
Henze, J., 4340, 6152
Hepburn, G. A., 7331
Hepler, R. W., 1144
Herfs, W., 2858
Herich, R., 1576, 1577
Hering, M., 727, 6419
Herklotz, A., 3307
Hernández, E., 3698
Herne, D. C., 6451
Herr, R. R., 91
Herregods, M., 4800
Herrmann, K., 471, 4345
Herron, J. W., 6899
de Hertogh, A. A., 5273
Hervé, J., 6278
Hesling, J. J., 3235
Hess, C. E., 2192
Hess, D., 2223, 2224
Heuberger, J. W., 653, 4622
Hewitt, C. A., 4075
Hewitt, E. J., 120, 6880
Hewitt, W. B., 679, 2723
Heydecker, W., 791
Heyna, B. J., 5946
Hiatt, A. J., 4109
Hibbs, E. T., 5130
Hickey, K. D., 6461
Hickman, C. J., 6382
Hickman, M. G., 3304
Hidalgo, L., 2651
Hidayatullah, M., 1947
Hieke, K., 3256, 6841
Hield, H. Z., 7252
van Hiele, F. J. H., 2992
Higaki, T., 3233, 5122
Higashi, T., 1112
Higazy, M. K., 4088
Higgons, D. J., 2272
Higgs, A. L., 216
Hikida, H. R., 6539, 6597
Hilal, S., 5371
Hilborn, M. T., 131
Hildebrandt, A. C., 3083, 6415
Hildreth, R. C., 7350
Hilgeman, R. H., 7282
Hilkenbäumer, F., 338, 2498, 2692, 4040, 6160
Hill, A. C., 2179
Hill, A. V., 7063
Hill, C. H., 747
Hill, R. J., 4056
Hill, W. H., 3513
Hillebrand, W., 6248, 6385
Hillinger, I., 3766
Hillman, W. S., 2220
Hills, C. H., 4394, 6118
Hills, O. A., 4853
Hilton, J. L., 6556
Hinds, R. H., Jr., 3647
Hine, R. B., 608, 5519
Hinrichs, H. A., 595
Hintze, S., 6013, 6042
Hirai, J., 2487, 4321
Hiroyasu, T., 532, 2677, 4518
Hirst, J. M., 762
Hislop, E. C., 7389
Hitchcock, A. E., 5163
Hitchcock, R., 393
Hitier, H., 7030, 7075, 7076
Hitrinskij, V. F., 1069
Hlopenkova, L. P., 5852
Hlystova, A. F., 4782
Ho, H.-K., 4957
Hoban, N., 4394
Hocombe, S. D., 4130, 6591, 7180, 7422
Hodges, T. K., 2678
Hodgson, R. W., 1656
Hoff, J. K., 4972
Hoffman, I., 1402, 5278

Hoffman, M. B., 368
Hoffmann, G. M., 3234
Hoffmann, P., 2438
Hofman, K., 2592
Hofman, N. C., 6786
Hofmann, F., 3454
Hofmaster, R. N., 2911, 4815
Hogarth, W. B., 1785
Hohmann, G., 6938
Hojer, L., 1458
Hokama, K., 7480
Holbeche, J. A., 314, 443
Hole, E., 1359
Holevas, C. D., 1801, 3757, 3758
Holland, D. A., 4159, 4305
Hollanda Lima, I., 5789
Holley, W. D., 5120
Holliday, P., 7114
Holliday, R. F. W., 4625
Hollings, M., 6835
Hollis, J. P., 5742
Holm, L. G., 1282
Holmes, E. S., 1223
Holmes, F. O., 499, 7398, 7399
Holmes, F. W., 5224
Holmes, I., 2379
Holodova, V. P., 135
Hölte, W., 5811
Homenko, M. S., 451
Honda, F., 1145
Hondelmann, W., 2567
Hong Kong, Director of Agriculture, Fisheries and Forestry, 4233
Honma, S., 4794
Hood, K. J., 6757
op 't Hoog, G. T., 479, 4478
Hoogeterp, P., 1234, 6882
Hooper, D. J., 1849, 3044
Hope, G. W., 4911
Hopen, H. J., 4859
Hopp, R. J., 904
Hoppe, H., 6904
Horanic, G. E., 1712, 5453
Hordyńska, S., 4157
Hori, Y., 1112
Horigan, L. P., 5356
Horitsu, K., 415, 6150
Horn, D. H. S., 7152
Horn, E., 2417
Horn, G. C., 6891
Horn, H.-H., 4897
Horn, N. L., 674, 4596, 6378
Horne, F. R., 5812
Horner, C. E., 5408
Hornung, H., 3436
Horsfall, F., Jr., 363, 2828
Horticultural Education Association, 4208
Horticultural Marketing Council, 4467
Hosaka, H., 1238
Hosansky, N., 3551
Hosegood, P. H., 7110
Hošek, K., 2918
Hosford, R. M., Jr., 1049
von Hösslin, R., 2843
Ho Tong Lip, 1495
Hough, L., 332
Hough, L. F., 2564
Houser, P. L., 5293
Housley, S., 130
Houston, B. R., 4178, 5426
Hovadík, A., 1088, 3138, 6480, 6691
Howard, B. H., 1587, 4056
Howard, C. M., 1225
Howarth, N. L., 4013
Howitt, A. J., 6544
Howland, A. F., 1134
Howles, R., 3162
Howlett, F. S., 228, 6006
Hoyt, S. C., 701, 2770, 4662, 6406
Hrabětová, E., 347
Hrubý, K., 4385, 6012
Hsia, Y. T., 5736
Hsu, W.-C., 2038
Hu, C. C., 4867
Huan, V.-N., 2923
Huang, H., 4867, 6547
Hubbeling, N., 4882
Hubert, F. P., 1740
Hubert, K., 6876
Huberty, M. R., 1692
Hublin, R., 2026
Hübner, H., 7174
Hudajberganov, R., 3508
Hudek, H. J., 5120
Hudgins, W. R., 5356
Hudson, M. A., 4044
van Hûele, E., 455
Heulin, F. E., 379
Huet, J., 2293
Huet, R., 5512, 7260, 7299, 7304
Huffine, W. W., 6897
Huffnagel, H. P., 2326
Hugard, J., 2432, 2510, 6083
Hughes, C. G., 2078
Hughes, E. C., 6486
Hughes, H. M., 457, 2569, 6176
Hughes, I. K., 1433, 3473
Huglin, P., 541, 6219
Huguelet, J. E., 671
Huguet, C., 3145
Huhnke, W., 3034
Hulea, A., 5068
Hull, J. W., 2605, 4468, 4469, 4472
Hulme, A. C., 2507, 2544
Hülsmann, B., 3306
Hume, H. H., 1337
Humphrey, H. B., 2327
Humphries, E. C., 5868
Humphries, E. G., 3493
Hung, S. L., 2055
Hunnam, D., 1087
Hunt, R. A., 7106
Hunter, J. A., 1271, 4061
Hunter, J. R., 2016, 5579
Hunter, P. E., 699
Hunziker, R. R., 7242
Hupfauer, M., 3602, 3603
Hurduk, N. N., 2219
Hurndell, L. C., 6483
Hurst, D. C., 5925
Hurt, B. C., Jr., 1358, 4635
Hurter, N., 224
Hurtig, H., 2286
Husabø, P., 4358
Husain, S. S., 4641
Husfeld, —., 2657
Husmann, W., 7298
Hussey, N. W., 3045, 3046
Hussin, H., 6765
Hutchinson, A., 2437, 2490
Hutchinson, F. E., 6599
Hutchinson, J., 148
Hutchinson, M. T., 1170, 4019
Hutchinson, P. S., 4802
Huter, R., 3479
Hutton, K. E., 638, 652, 2707, 4621, 6364
Huyskes, J. A., 985, 3007, 4945, 6638
Huziwara, Y., 6830
Hwang, W. H., 5874
Hyndrickx, W., 3211

Iacob, N., 4661, 4664
Iancovici-Yaron, B., 5829
Ibarra, E. L., 3893
Ibragimov, S. I., 883
Ibrahim, R. K., 1334
Ide, L. E., 982
Idle, D. B., 4044
Ignat'eva, I. P., 3254
Ihara, Y., 4055
Iikubo, S., 1807
Ikeda, I., 1809
Ikeda, R. M., 7302
Ikegaya, K., 2137, 5773, 5777
Ikuma, H., 3009
Il'in, G. S., 5289
Ille, C., 1390, 1391, 6984, 6985, 7009, 7018
Illinois Agricultural Experiment Station, 5965
Imazu, T., 2313, 5102
Immikhuizen, E., 4688
Inamdar, Y. V., 3963
Incze, F., 6863
Indian Agricultural Research Institute, 194
Indian Coffee Board, Research Department, 1904, 1905

Indian Council of Agricultural Research, 195, 2364, 5981
Indian Institute of Sugarcane Research, Lucknow, 7498
Indian Tea Association, Scientific Department, 7534
Indusekhar, V. K., 1870
Indyk, H. W., 6885
Ingalsbe, D. W., 6116
Inkson, R. H. E., 1042
Innes, D., 3872
Institut pour l'Encouragement de la Recherche scientifique dans l'Industrie et l'Agriculture, Belgique (I.R.S.I.A.), 2347
Institut National pour l'Étude Agronomique du Congo (I.N.E.A.C.), 196
Institut des Recherches sur le Caoutchouc au Cambodge (I.R.C.C.), 2008
Institut des Recherches sur le Caoutchouc au Viêt-Nam (I.R.C.V.), 2009, 5689
Institut de Recherches pour les Huiles et Oléagineux (I.R.H.O.), 1986, 3914, 7335
Instituto Biológico, São Paulo, Brazil, 5801
Instituto Nacional de Investigaciones Agronomicas, Madrid, 4216
Instituut voor Bewaring en Verwerking van Tuinbouwproducten, Wageningen, 68
Instituut voor Bodemrvuchtbaarheid, Groningen, 2346
Instituut voor Plantenziektenkundig Onderzoek, Wageningen, 87
Instituut voor Toegepast Biologisch Onderzoek in de Natuur, Arnhem, 160, 5966
Instituut voor Tuinbouwtechniek, Wageningen, 161, 162
Inter-American Cacao Center, Turrialba, 1854, 7380
International Commisson for the Nomenclature of Cultivated Plants, 2165
Ioan, E., 6984
Ionescu, V., 4366
Ioniţă, C., 4310
Iordăchescu, O., 4916
Iordanis, I. G., 7321
Ireland, J. P., 411, 2539
Irvine, F. R., 148
Irvine, J. E., 1500, 7181
Isaac, K. V., 3977
Isac, G., 4707
Isely, D., 4050
Isensee, H., 1213
Ishigaki, K., 2135, 2138
Ishii, H., 126
Ishitoya, K., 1406
Ishizawa, S., 5233
Ishizuka, Y., 7013
Istas, J. R., 7108
Itagi, T., 1002
Ito, H., 897, 2922, 6522
Iton, E. F., 5605, 7387
Iuga, M., 5158
Ivanić, J., 1057
Ivanoff, S. S., 2932
Ivanov, I. K., 2631
Ivanov, N. G., 1423
Ivanov, S. M., 2471
Ivens, G. W., 77, 4130
Iwaki, N., 2866
Iwakiri, B. T., 358
Iwasaki, T., 1673, 1682, 3704, 5469
Iwatsuki, Z., 3322
Iyengar, R. L. N., 5405
Iyer, S. S., 3945
Izard, C., 2423, 7049, 7073, 7074, 7075

Jabber, A., 1540
Jack, R. C. M., 2064
Jacks, H., 4921
Jackson, A. A., 1023
Jackson, C. R., 1183, 1184, 1188, 1220, 3289, 6848
Jackson, D. I. 422
Jackson, F. J., 2317
Jackson, N., 1242, 1250, 6894
Jacoboni, N., 6011, 6306, 7325
Jacobs, M., 1317
Jacobs, M. B., 4716
Jacobs, W. P., 2221, 4116, 6908
Jacobsen, J. V., 664
Jacoby, B., 1703, 7243
Jagirdar, A. P., 1951
Jagisita, N., 6720
Jahn, O. L., 445
Jain, H. K., 3242
Jain, N. L., 4450
Jain, P. C., 840
Jakovlev, S. P., 2407
Jakovljevic, I. M., 5391
Jakuškina, N. I., 5066
Jalap, V. C., 3541
Jamaica, Banana Board, 3789
Jamaica, Coconut Industry Board, 5622
Jamaica, Ministry of Agriculture and Lands, 4234
Jamaica, Sugar Manufacturers' Association, 5702
James, A. T., 5418
Jamieson, W. R., 4552
Jammar, M., 7473
Jamoussi, B., 2657
Jamwal, K. S., 7135
Janick, J., 2222, 4461
Janiševskij, F. V., 3573
Jankiewicz, L. S., 4359, 4360, 4361
Jankov, S. I., 6962
Jankowski, F., 6987, 6989, 6990, 7080, 7082
Jankulov, J. K., 3538
Jannke, P. J., 1529
Janssen, M. J., 2272
Janýška, A., 3057, 6689
Jaques, R. P., 861
Jaret, R., 3551
Jaroniewski, W., 7120
Jarrett, L. D., 1762
Jarrett, R. M., 4307
Jarvesoo, E., 5119
Jary, C., 3578
Jaša, B., 6682
Jasmin, J.-J., 3073, 4818
Jauhari, O. S., 1005
Jaumień, F., 4669
Jawanda, J. S., 1696, 3905
Jayaraman, V., 5779, 5780, 5782
Jayaratna, S. M., 3855
Jaynes, R. A., 6296
Jazić, L., 4544
Jeff, A. E., 3275
Jefferson, P., 6902
Jeffrey, R. N., 3447, 7029, 7039
Jeffreys, R. A., 25
Jelaska, M., 4545
Jelenković, G., 2616, 4501
Jeltnek, J., 6688
Jenkins, J. E. E., 6334
Jenkins, J. M., Jr., 1218
Jenkins, W. R., 1170, 1171
Jenkinson, I. S., 5862
Jennings, D. L., 6202
Jennings, J. P., 523
Jensen, F. L., 584, 4687
Jensen, G., 2233
Jensen, H. J., 4141, 6686
Jensen, M. C., 2200, 6060
Jenser, G. 4659
Jeppson, L. R., 1744, 3724, 7270
Jepsen, H. M., 6068
Jepson, W. F., 2272
Jersey, States Experimental Station, Howard Davis Farm, Trinity, 777, 5967
Jesena, C. C., Jr., 2161
Jeśmanowicz, A., 5379
Jessep, C. T., 4809
Jesser, M. J., 1744, 7270
Jha, A., 2720

Jianu, L., 577
Jo Jan Lim, 1491
Joachim, A. W. R., 2128
Jobling, J., 4056
Jodo, S., 3681
Johansson, E., 2390, 2467, 2599, 2606
Johar, D. S., 1496
John Innes Institute, 163, 5968
John, M. E., 4947
Johnson, C. M., 3324
Johnson, E. M., 5310
Johnson, H., Jr., 6505
Johnson, H. B., 3729
Johnson, H. G., 5193
Johnson, J. C., 851, 6777
Johnson, J. F., 2520
Johnson, R. B., 1743, 5482, 5484, 5486
Johnson, W. H., 5334
Johnston, C. J.. R., 5489
Johnston, S., 215, 4270
Johri, B. M., 31, 66
Joiner, J. N., 1782, 6845, 6891, 6930
Joint Demeton-methyl Residues Panel, 5917
Joković, D., 521
Joley, L., 6303
Joley, L. E., 4383
Jolley, L. C., 1756
Jolliffe, V. A., 3742
Jolly, A. L., 5570
Joly, P., 7375
Jones, A. H., 6045
Jones, A. R. C., 7198
Jones, B. M., 1286, 1287
Jones, D. A. G., 3144
Jones, G. A., 5425
Jones, G. D., 452
Jones, G. D. G., 7177
Jones, J. P., 909, 1129, 6575
Jones, M. B., 329, 330
Jones, P. A., 7411
Jones, R. I., 4183
Jones, R. K., 4622
Jones, T. R., 3892
Jones, W. W., 1699, 1701, 5509
de Jong, D. J., 714
de Jong, P., 3938
de Jonge, P., 2028
Jonniaux, M., 812
Jordan, K., 6390
Jordan, L. S., 3689, 7207, 7235
Jordan, Deir Alla Research Station, 4235
Jordan, Wadi Fara'a Agricultural Research Station, 778
Jordine, C. G., 7357
Josepovits, G., 58
Joshi, A. B., 1473
Joshi, B. C., 1535
Joshi, B. G., 1448, 7092
Joshi, B. S., 4104
Joshi, K. V., 3963
Joshi, R. D., 6940
Joshi, S. N., 4976
Joshi, S. S., 2157
Joslyn, M. A., 4764
Jotwani, M. G., 5016
Judenko, E., 2146, 4025
Judin, A., 549
Judinceva, E. V., 4074
Juliano, J. B., 1973, 1974
Julliard, B., 6219
Jumper, S. R., 1654
Jung, J., 4077
Jung, Y., 6558
Jungk, A., 6790
Jur'eva, N. A., 3114
Juscafresa, B., 4559
Juska, F. V., 6886
Jusufov, A. G., 5112
Jutras, P. J., 1759, 3730

Kaars Sijpersteijn A., 2272
Kac, K. M., 3618
Kačarava, P. M., 289
Kachhwaha, S. S., 7151
Kadam, B. S., 6972
Kádár, G., 2622
Kaderavek, G. P., 2535
Kadić, B., 4650
Kagawa, H., 641, 6349
Kaindl, K., 4330
Kaiser, F., 5377
Kakljugin, Ja. M., 6235
Kalbfleisch, W., 4174
Kalda, T. S., 237
Kale, R. A., 4001
Kaleganov, A., 236
Kalenkov, Ž., 5262
Kallio, T. K., 4277
Kaloostian, G. H., 4725, 6341
Kaloyereas, S. A., 3051
Kalra, A. N., 5745
Kalyanaraman, V. M., 3994
Kalyanikutty, T., 1827
Kamali, A. R., 4333
Kamemoto, H., 1264, 1265, 3233, 3348, 5122
Kamerbeek, G. A., 3298
Kamimura, S., 841, 842
Kamm, L., 3604
Kandaswamy, M., 5733
Kang, Y.-D., 2421
Kanjanasoon, P., 6478
Kannan, K., 1563
Kanô, T., 5765
Kanta, K., 7142
Kantartzis, N. A., 4556, 4560
Kanthamani, S., 1513
Kantzes, J. G., 6396
Kanwar, J. S., 3697
Kapadia, G. J., 7125
Kapil, R. S., 2157
Kapoor, L. D., 1482, 3546, 5358, 5385
Kappert, H., 3262
Kapur, K. K., 1613
Kar, K., 2074, 7522
Karag'ozova, M. D., 5244
Karai, J., 5939
Karandikar, G. K., 1520
Karas, J. G., 3268, 3269
Karawya, M. S., 5371
Kardos, L. T., 304, 2472
Karkan, A., 3611
Karnatz, A., 4382, 6178
Karnatz, H., 2434, 2692, 4293, 4312, 4459, 4710, 5805, 6036
Karner, L., 6583
Karolini, W., 6512, 6513
Karpenčuk, G. K., 6066
Karpov, G. K., 5999
Kartha, A. R. S., 1486, 1487, 1893
Kasimatis, A. N., 565, 6246
Kas'janenko, A. I., 251
Kasperek, M., 44
Kaspšik, M., 5050
Kasumjan, S. A., 4681
Kaszonyi, S., 3401
Kataoka, K., 3277
Katar'jan, T. G., 2645
Katoh, S., 45
Katona, M., 5054
Kattan, A. A., 296, 1100, 4413, 4414, 4472
Katyal, S. L., 1963, 2155, 4904
Kaufman, J., 4798
Kaukovirta, E., 1175
Kaul, B. K., 5385
Kaul, K. N., 1558, 5432
Kaurov, I. A., 2255
Kausar, A. G., 1976
Kavanagh, K., 7338
Kaven, E., 4930
Kawai, S., 2135, 2136, 2137, 2138, 5773, 5777
Kawano, Y., 7200
Kawarada, A., 47
Kawatani, T., 7123
Kay, D., 3827
Kay, E., 3648
Kazerovskis, K. K., 7138
Kazimirskij, N. K., 6418
Kazó, B., 5011
Kazperowski, H., 2930
Keane, F. W. L., 616, 620, 621, 4260
Keay, R. W. J., 148
Keeler, J. T., 1997
Keep, E., 493
Kefford, J. F., 1806
Kefford, N. P., 48
Kegel, L. P., 6714

Kegler, H., 618, 912, 2692, 2705, 6330
Kehl, F. H., 4011, 4014, 4015
Kehr, A. E., 6685
de Keijzer, R., 3211
Keil, W., 2825
Kejseruhskij, Š. G., 591
Kekwick, R. G. O., 2027
Kelbert, D. G. A., 6743
Kelembet, T. S., 451
Kelly, S., 4462
Kelman, A., 3471, 5079
Kemmer, E., 250
Kemmerer, H. R., 1325
Kemp, D. C., 6634
Kemp, G. A., 1072
Kemp, W. G., 6818
Kempanna, C., 3777
Kemper, H., 761
KenKnight, G., 2718
Kennedy, B. W., 6346
Kennelly, A. G., 779, 3005
Kennett, B. H., 2548
Kennewell, H., 3339
Kenten, R. H., 5601
Kentucky Agricultural Experiment Station, 164
Kentzer, T., 972
Kenworthy, A. L., 420, 2516
Kenya Coffee Research Station, Ruiru, 1906
Kenya Department of Agriculture, 2365
Kerala Department of Agriculture, 1872
Kerényi, E., 6860
Kerfoot, O. 4009, 7548
van der Kerk, G. J. M., 2272
Kerr, S. H., 1268, 1312
Kersbergen, F., 2397
Kershaw, K. L., 3938
Kessler, B., 47, 4351
Kessler, K. L., 4075
Kester, D. E., 587, 613, 4555, 4575, 6293, 6294
Kesterson, J. W., 3745, 7303
Ketellapper, H. J., 2231
Keyworth, W. G., 850
Khader, J. B. M. M. A., 7563, 7566
Khalidy, R., 3786
Khalil, T. S., 313
Khan, A. A., 1955, 1968, 1969
Khan, A. H., 1978
Khan, A. M., 7521
Khan, A. R., 3967, 3968
Khan, D. A., 1949, 1962
Khan, I. U., 1976
Khan, M.-u.-D., 1956, 1965, 1966, 1978
Khanna, K. L., 5393
Khanna, S. S., 5795
Khatri, P. B., 7459
Kheiralla, A. I., 6760
Khorana, M. L., 3544, 7125
Kiang, T., 1627
Kibal'čić, P. N., 1507
Kick, H., 4180, 4752
Kído, H., 734
Kieft, H., 4039
Kiely, T., 5465, 5479
Kiely, T. B., 1802, 1803
Kiermayer, O., 1113, 3154, 3155
Kihlman, B. A., 5840
Kikuchi, T., 5473, 6033
Kilby, W. W., 3773, 5533
Killick, H. J., 1253, 3333
Kilpatrick, D. T., 6146
Kim Sun Ok, 3529
Kimble, K. A., 3087, 5075
Kimura, Y., 3317
Kindt, V., 4949, 4952
King, C. C., 6924
King, D. L., 6635
King, E., 5807
King, J. R., 1738, 1743, 1751
King, N. J., 2100
King, T. H., 2994, 2996, 4922, 6346, 6628, 6629
Kingsbury, J. M., 5
Kingsolver, C. H., 5815
Kingston, C. R., 3575
Kingston, H. I., 2821
Kinne, I. L., 399
Kinoshita, K., 7141
Kiplinger, D. C., 1160 1344, 3358
Kirby, A. H. M., 2272
Kirch, E. R., 7134
Kirchner, H.-A., 2695
Kirillov, Ju. I., 797
Kirjuhin, G. A., 2777
Kirjuhina, R. I., 3480
Kirk, P. L., 3575
Kirkpatrick, H. C., 2940
Kirkpatrick, J. D., 7222, 7223
Kirste, H., 5811
Kirthisinghe, F., 3852
Kirthisinghe, J. K. F., 1891
Kirton Experimental Husbandry Farm, 3272
Kisaki, T., 1415
Kiss, F., 4822
Kitajima, E. W., 3163
Kitajima, H., 2741
Kitamura, F., 3323, 3382
Kittock, D. L., 1606
Klämbt, H.-D., 4466
Klapal, I., 3611
Klarman-Kislev, N., 3799
Klarner, S., 6980, 6996
Klaudel, J., 7172
Klaver, H., 1989
Klee, F. C., 7134
Klee, O., 4151
Klein, L. G., 223
Klein, R. M., 47, 5837
Klein, W. H., 4091
Kleinschmidt, G., 5384
Kleis, R. W., 6507
Klett, —., 5805
Kleyn, J. G., 5414
Klingbeil, G. C., 505
Klinger, G., 4171
Klingler, J., 4665
Klingman, G. C., 5273
Klinkmann, H., 6637
Klinkowski, M., 3469, 5314
Klisiewicz, J. M., 2904
Kljajić, R., 4135
Kljuškina, N. S., 2191
Klostermeyer, E. C., 933
Klotz, L. J., 3680, 3732, 3733, 3734
Klougart, A., 2164
Kloz, J., 4877
Klozová, E., 1194
Knapen, H., 4365
Knapp, F. W., 6731
Knapp, R., 2186, 4119
Knecht, A., 2565
Kneebone, L. R., 6672
Knight, A. H., 6510
Knight, R. L., 4465
Knoppien, P., 97
Knorr, L. C., 3656, 5442
Knust, H. G., 3949
Knuth, M., 6858
Kobayashi, A., 534, 573, 2449
Kobiašvili, N. I., 686
Kobylka, B., 6800
Kočenko, Z. I., 6393
Koch, B., 5023
Koch, E. J., 3410
Koch, H., 1504
Koch, O., 3248
Kochhar, M. M., 1617
Kock, R., 4060
Kodama, T., 3322
Koelle, G., 1362, 3455, 5256
Koenig, H. Z., 3435
Koenraadt, J., 3688, 3776, 7339
Koeppen, B. H., 4975
Kofranek, A. M., 5123, 5830
Koga, T., 4995
Kogan, L. M., 2776
Kohashi Shibata, J., 4993
Kohl, H. C., Jr., 19, 1165, 1291, 3305, 3349
Köhler, H., 2858
Koivistoinen, P., 115
Kolbe, M. H., 452
Kolbezen, M. J., 5501, 6284, 6780, 7292, 7293
Kolesnikov, D. G., 6709
Kolesnikov, V. A., 2294, 4169, 6075
Kolev, N., 5060

Kolhe, A. K., 4742, 5044, 6561
Kolmakova, V. D., 2778
Kolontaev, V. M., 2403, 2511
Komforti, T., 4984
Komissarov, D. A., 1310
Konczerewicz, A., 1367, 6973, 6978, 6982
Kondo, M., 1217
Konicek, D. E., 6686
König, E., 136
König, F., 6052
Konlechner, H., 2664
Kononkov, P. F., 1046
Kononov, A. V., 2655
Konovalov, I. N., 4567
Konstantinov, N. N., 7127
Konstantinova, A. F., 3404
Koo, R. C. J., 1689
Koorts, L. J., 2756
van Koot, Y., 5035
Kopcsó, I., 6123
Kopetz, L. M., 2229
Kopp, E., 3547
Koppensteiner, O., 5104
Koppes, S., 6881
Kordan, H. A., 7253, 7254
Koremura, M., 857
Korezawa, N., 3563
Körner, W., 3389
Korobkina, Z. V., 2680
Korovin, V. A., 247
Köster, P., 3342, 3370
Kosugi, K., 1217, 3277, 3317, 5162
Koter, M., 5347
Kothary, K., 948
Koto, M., 1695, 1698
Kottenhoff, R., 4799
Kotze, J. M., 3713
Kovács, S., 1591
Kovalev, N. V., 2386
Kovyrjakov, Ju. P., 742
Kozlowski, T. T., 5951
Kozma, P., 6218
Kraai, A., 2893
Kraebel, C. J., 1627, 1628, 1631
Kraffzig, O., 4790
Kragtwijk, C., 3286, 3299, 3315, 3316
Krahnstöver, K., 4192, 4193
Kramer, M., 4967
Kramer, P. J., 5051, 5951
Kramer, S., 2576, 4367
Kran, A. P., 3059
Krantz, B. A., 4870
Krasnovskaja, N. I., 2763
Krasowska, H., 5372, 5373
Krastina, E. E., 4085, 5050
Krasuskij, E. S., 2667
Krauja, A. E., 24
Krause, G., 1258
Krause, W. G. C., 5150
Krausko, A., 1456, 5344
Krausko, O., 1477
Krauss, R. W., 7201
Kravcov, P. V., 5824
Krayer, A., 6208
Kress, L. F., 2258
Kretchman, D. W., 1678, 1736, 5467, 7233, 7234
Kretovič, V. L., 44
Krezdorn, A. H., 218, 1713, 1714, 5467
Krickl, M., 1030, 2896, 6698
Kriebel, H. B., 3622
Kriegler, P. J., 702, 716, 2761, 2765, 2781
Krimbas, D., 2657
Krishnamurthi, S., 1686, 1824, 5460, 7462
Krishnamurty, K. V., 5301
Krishnan, P. S., 46, 5231
Krishnaswamy, N., 1870
Kristensen, H. R., 4576, 5899, 6317, 6321, 6329, 6825
Kriszten, G., 4532, 6255
Kříž, J., 3600
Krjačko, Z. F., 3481
Kröber, H., 1329, 3466, 7077
Krochmal, A., 504, 2979
Krödel, F., 6506
Krohn, E. J., 1653
Królikowska, Z., 4112
Kroll, U., 3612, 7177, 7178, 7179, 7180
Kröller, E., 4152
Krone, P. R., 3380, 6943
Kronenberg, H. G., 436, 2592
Krotkov, G., 960, 5280
Krstovic, R., 5327
Krueger, R. C., 6674
Kruger, K., 4769
Krüger, W., 1123, 3164, 3165, 3166
Krupey, J., 1942
Krupp, G., 5930
Kruševa, R., 5355
Kružilin, A. S., 446, 2901, 4084
Krylatov, A. K., 6271
Kubota, E., 5788
Kuc, J., 4620
Kučaeva, A. G., 5872
Kučera, M., 1569
Küchler, M., 7186
Kühle, G., 5143, 6937
Kuhn, H., 1416
Kühn, J., 5175
Kuitert, L. C., 1268, 1312
Kulik, M. I., 1068
Kulkarni, C., 6562
Kulkarni, N. B., 7564
Kulkarni, V. G., 6935
Kulpa, W., 3523
Kulshreshtha, J. P., 5745
Kumar, S. A., 1706
Kumari, T. N. S., 7148
Kuminov, E. P., 487, 2602
Kummer, H., 936
Kundert, J., 6353, 6387
Kundu, B. C., 5365, 5382
Kuntz, J. E., 5426
Kunze, L., 2692
Kupchan, S. M., 1511, 3553
Kuraoka, T., 5473
Kuretani, M., 2488
Kurnakov, B. A., 3253
Kuroiwa, Y., 1597
Kurosawa, M., 3450
Kursanov, A. L., 4083
Kurup, A., 1448
Kurup, C. K. R., 1404, 7006, 7007
Kurz, H., 2321
Kushwaha, K. S., 2092
Kušnirenko, S. V., 884
Küthe, K., 651
Kutjurin, V. M., 4165
Kuwada, H., 5245
Kuzmanov, B., 1614
Kuz'min, A. Ja., 2583
Kuznecov, M. D., 248
Kvarachelija, M. S., 6301
Kvasnička, S., 1028, 3080, 6639
Kwack, B. H., 958, 2981
Kwieciński, W., 6980
Kwong, S. S., 466, 4332

van der Laan, P. A., 6951
van der Laar, H. J., 3213
Labanauskas, C. K., 1637, 3701, 7231
Labarca, C., 4869
LaBelle, R. L., 6124, 6138
Labrador S., J. R., 3818
Labus, S., 5818
Lacey, H. J., 54
Łachowski, J., 6657, 6658, 6659
Lacroix, E., 6836
Ladabaum, S., 3540
Laflin, T., 2348, 3282
Lafon, J., 680, 6270
Lafon, R., 2962, 3172, 3291
Lagaude, H., 6021
Lagerwerff, J. V., 2204, 6586
Lahiri, A. N., 949
La Hulpe, 2615
Laing, F. M., 1624
Lakanen, E., 2300
Lake, J. V., 1150
Lakshmanaswamy, M. G., 7409
Lal, G., 1805, 4398, 5529
Lal, K. N., 5732
Lal, S. B., 5073
Lalatta, F., 6024
Laličič, I., 3480
La Malfa, G., 6742

Lamb, J. G. D., 1092, 1096, 6751
Lamb, R. C., 223
Lambert, J., 767
Lambeth, V. N., 1073
Lamm, R., 2840, 4745
Lamouria, L. H., 579, 6274
Lamp, C. A., 6535
Lanckow, J., 2312, 6642
Landel, J. P., 4858
Landi, J. 5491
Lanen, J., 5332
Lanfranchi, J., 5574
Lang, A., 5873, 6558
Lange, A. H., 1998, 1999, 2000, 2001, 5681
Lange, O. L., 3747
Lange, W. H., 6515
Langhans, R. W., 140, 1201, 3303, 4176, 5828, 6843
de Langhe, E., 3796
Langille, J. E., 2899
Lanning, F. C., 500
Lanphear, F. O., 1305
Lapins, K., 250, 266
LaPrade, J. L., 7084
Lara E., F., 3830
Large, J. R., 669
Larsen, A., 2314
Larsen, D., 2411
Larsen, P., 4616
Larsen, R. P., 6057
Larson, P. R., 5951
Larson, R. A., 1345, 6922
Larson, R. H., 3060
Larsson, G., 2603
LaRue, J. H., 748
Larzelere, H., 6004
Lasala, M., 3223
Lasheen, A. M., 127, 383
Láskoš, J., 1573
Laskowska, R., 1572
Lassagne, H., 6188
Latard, P., 263
Laties, G. G., 3651
Latif, A., 915, 3559
Lauenstein, A., 2319, 2320
Lauffer, M. A., 4209
Laughlin, W. M., 976
Laumont, P., 2977
Laurencot, H. J., 4880
Laurent, R., 1460
Lauw Sik Leim, 3932
Lavabre, E. M., 5539, 5607
Lavalleye, M., 2958, 2986, 6488
Laville, E., 3748, 5553, 7307
LaVine, P. D., 2829
Laviola, A., 1794, 1795
Lawalrée, A., 2328
Lawes Agricultural Trust, 5975
Lawrence, F. P., 1674, 5993
Lawrence, W. J. C., 4208
Lawrie, I. D., 3974
Lawson, E. N., 6900
Lawson, F. R., 1444
Lawson, J. A., 1832
Lawton, K., 2867, 6492
Laycock, D. H., 2120
Lazarova, R., 5024
Lazaruk, W., 4999
Lazukov, M. I., 2501
Lea, H. W., 3420
Leach, D. G., 6927
Leach, M., 947
Leach, R., 3816
Leal Pinto, F., 3668, 7460
Lear, B., 2902
Leavitt, R. H., 4543
Lebedev, G. V., 5768
Lebedeva, V. A., 2937
Lecat, P., 7143
Lecomte, J., 3639
Leder, H., 2844
Ledergerber, A., 7304
Ledin, R. B., 1948
Ledingham, J. G. M., 7377
Lee, C. C., 6752
Lee, C. W., 7453
Lee, L. C., 3620
Lee, S.-M., 7520
Lee, W. A., 398
Lee, Y. T., 5719
Leefe, J. S., 76, 82, 83, 284, 6587
Leeper, R. W., 3921
Lees, P. D., 3310
de Leeuw, W. P., 1191
Lefaux, R., 416
Lefèvre, F., 7305
Lefter, G., 4661, 6369
Legatowa, B., 4157
Legg, P. D., 3411
Legner, E. F., 4674, 4677
Legowski, T. J., 4667, 4928
LeGrand, F., 7514
Legro, R. A. H., 5135
Legros, N., 3006
Leh, H.-O., 1205, 2276
Leiderman, L., 3722, 4967, 5487
Leininger, L. N., 7196
Lelakis, P. I., 2809, 6216
Leland, H. V., 3741
Lemaitre, R., 5825
Lemper, J., 3234
Lenz, F., 483, 4480
Lenzi, A. M., 4628
León, J., 7434
Leonard, A. S., 4299
Leonard, C. D., 1709, 3694, 7238, 7239
Leonard, D. E., 4683
Leonard, O. A., 554, 2650, 4523, 4524
Leonov, I. P., 7101
Leopold, A. C., 2222, 5880
Lepădatu, V., 4517, 4528
Lerch, J., 4276
Lerche, K., 3577
Le Riche, H. H., 762
Le Roux, E. J., 715
Leroy, A., 5212
Leroy, J. F., 1908, 1909, 1910
Lesaint, C., 4901, 5196
Leshem, Y., 3075
Łęski, R., 2811
Leskova, A. Ja., 6432
Leskova, E. S., 1507, 3528
Lesley, J. W., 4268, 4269
Lesley, M. M., 3261
Letey, J., 4099
Letham, D. S., 119, 298, 352
Letzig, E., 136
Leverington, K. C., 2060
Levin, G. M., 502
Levina, Ė. M., 4074
Levitt, E. C., 1718
Levitt, J., 2170
Lewis, E. P., 6563
Lewis, F. H., 4623
Lewis, L. N., 636
Lewis, S M., 5375
Lewis, T. L., 2545, 5100
Lewis, W. H., 5213
Lewis, Y. S., 4036, 5799
Leyden, R. F., 3706
Lhoste, J., 767, 6705
Liacu, A., 4289
Liard, O., 2435, 4390
Libby, J. L., 1158
Lichtenstein, E. P., 4684, 6536, 6633
Lichtenthaler, H. K., 4097
Lider, L. A., 544
Lie, S. H., 5874
Liebster, G., 2832, 4473, 4634
Lienk, S. E., 6408
Liese, W., 7107
Lievesley, P. M., 6625
Light, W. I. St. G., 6626
Lighthall, M. T. C., 1624
Lighty, R. W., 1227
Likens, S. T., 5408
Lilleland, O., 371, 4331
Lillie, D. T., 2265
Lilov, D. C., 511, 520, 4505
Limar', R. S., 3545
Limarenko, L. K., 6425
Lime, B. J., 3740
Limpel, L. E., 4128
Lin, L. Y., 5719
Lin, R. C., 2051, 5713
Lin, Y. H., 6752
Lincoln, F. B., 7257
Lindemann, A., 3379
Linden, R., 436, 6282
Linder, P. J., 2251
Lindner, R. C., 2700, 2940, 4691

Lindner, S., 7173
Lindquist, C. H., 1322
Lindstrom, R. S., 3371
Ling, K. C., 2077, 7016
Ling, K. L., 5874
Ling, R. S., 2428
Lingao, A. L., 7467
Lingaraj, D. S., 3259
Lingle, J. C., 901, 1090, 1097, 1103, 4781, 5059
Link, C. B., 5207, 5209
Linskens, H. F., 2186, 2228 3337
van Lint, H., 6929, 6949
de Lint, P. J. A. L., 1534
Lionnet, J. F. G., 1557
Lippold, P. C., 698
Lipton, W. J., 4843, 4938
Lis, Z., 3446
Lisovenko, S. I., 451
Listengurt, M. A., 2836
Lister, R. M., 627
Listowski, A., 5379
Little, T. M., 2889, 4935
Littleton, B., 3217
Littmann, M. D., 1644
Litton, C. C., 5310
Littrell, D. L., 4472
Litzenberger, S. C., 1495
Liu, H.-P., 7520
Liu, K. Y., 5874
Liu, M. C., 2049
Liwski, S., 6493
Liyanage, D. V., 1874
Ljones, B., 4247, 4460
Lloyd, C., 3188
Lloyd, N. C., 4680
Lloyd, R. H., 1773, 5472, 7290
Lloyd-Jones, C. P., 348
Lock, G. W., 7161
Lockard, J. D., 6672
Locke, W. F., 3261
Lockhart, C. L., 672, 6781
Lockhart, J. A., 63, 2246, 2247, 2983
Lockwood, J. L., 2995, 3110
Lode, O., 845
Loeser, H., 6960
Loewel, E. L., 2692, 4255, 4629
Loewus, F. A., 4462
Loh, C. S., 5710
Löhden, A., 4255
Lokonen, P., 1243
Loladze, V. R., 6236
Lollichon, F., 3408
Lomija, N. Ja., 1710, 3661
Long, M. I. E., 3136
Long, W. G., 1659, 7283
Long Ashton Agricultural and Horticultural Research Station, 165
Longley, R. P., 284, 6034
Longo, G., 3133
Longworth, J. F., 5600
Loo, S. W., 5874
Loomis, N. H., 632
Loos, C. A., 1850, 5555, 7361
López, A. P., 2936
Lopez Ritas, J., 3444
Lopushinsky, W., 5051
Lord, F. T., 693, 4724
Lorenz, O. A., 867, 6644
Lorenzen, C., 5088
Lörincz, C., 3548
Lorrain, R., 6187
Lorz, A. P., 1153
Los, G. J., 4194
Lossois, P., 5547, 7479
Lott, T. B., 621
Lott, W. L., 3874
Lötter, J. de V., 6129
Loué, A., 1860, 3876, 5594, 7383
Loughman, B. C., 23
Loughton, A., 3038, 3041, 6694
Lounsky, J., 987, 3028
Loupe, D. T., 7503, 7511
Lovato, A., 4739, 6654
Lovett, W. J., 1394
Lović, R., 6227
Lovisolo, O., 4628
Lowe, A. D., 4809
Lowe, D., 2837
Lowig, E., 2188
Lowndes, D., 4056
Low Temperature Research Station, Cambridge, 4218
Ložnikova, V. N., 4121
Lubis, P., 2013
Luc, M., 1848, 3720
Lucas, G. B., 1432, 4138, 7057, 7058
Lucas, M. D., 6710
Luckwill, L. C., 4208, 6101
Luddington Experimental Horticulture Station, 166, 5969
Ludington, D. C., 6125
Ludwig, R. A., 2586
Luepschen, N. S., 635, 2726, 2949
Lugg, J., 6531
Lugo-López, M. A., 1913
Luis, R. A., 3067
Lukens, R. J., 3329
Luk'janov, A. D., 564
Lukpanov, Ž. L., 5622
Luks, Ju. A., 3341
Luna Ercilla, C. A., 3746
Luna Moreno, C., 2296
Lundstad, A., 1280, 5220
Lundy, H. W., 1396
Lunin, J., 929, 1348, 2960
Lunt, H. A., 1306
Lunt, O. R., 1244, 1245, 5123, 5830
Lunven, P., 1817
Lupescu, F., 4290
Lutkova, I. N., 6224
Lüttge, K., 6770
Luyten, I., 5183
Lužný, J., 2878, 2881, 2895, 2906, 6527
Lyall, L. H., 3065
Lyamungu Coffee Research Station, Tanganyika, 7412
Lyda, S. D., 2529
Lyndon, R. F., 4101
Lynen, F., 2025
Lynn, C. D., 4542
Lyon, C. M., 1229
Lyons, J. M., 2934, 4842
Lysanskij, A. A., 6457

van Maanen, G. H., 6853, 6936
Maassen, H., 629
Maatsch, R., 1213, 1329, 3231, 3247, 3306, 3393
McAleese, C. M., 3978
McArdle, F. J., 5098
Macaulay Institute for Soil Research, 4219
McBride, J. M., 5742
McCain, A. H., 656
McCall, W. W., 3371
McCalley, N. F., 6515
McCants, C. B., 1453, 5328, 7095
McCarty, C. D., 7207, 7235
McCaughey, W. F., 3561
McClellan, W. D., 3314
McClendon, J. H., 5842
McClure, F. A., 3499
McClure, W. F., 5283
McColloch, L. P., 1143
McComb, A. J., 923
McComb, C. W., 1315
McCombs, C. L., 2943
MacCormick, J. R., 4213
McCown, J. T., 1670, 1985, 7234
McCoy, O. D., 981, 4935, 6481, 6644
McCrum, R. C., 615
McCune, S. B., 536, 2649, 2650, 4524, 4526, 6245, 6246
McCune, W. E., 6804
McDaniel, A. T., 6919
McDaniel, J. C., 1325
McDaniel, W. E., 5826
McDonald, E. J., 1385, 1466, 5329
McDonald, W. C., 1010, 4920
McDonnell, J., 7495
Macdowall, F. D. H., 5279, 5282
Mace, M. E., 3807, 5554, 7365

Macedo, J. de A., 2639
McElroy, G., 430
McEwen, F. L., 966
McEwen, J., 5018
McFadden, L. A., 1185, 1186, 3338, 5198
McFadden, S. E., Jr., 6942
McFarlane, J. A., 5634, 7404
McFerran, J., 4803, 5029
McGahan, M. W., 1835
McGill, J. N., 5006
MacGillivray, J. H., 944, 981, 1097, 2304, 6291, 6476, 6505, 6531, 6784
MacGiolla, Rí, P., 6546
McGlasson, W. B., 2933, 2934, 4842
MacGregor, D. R., 4436
McGregor, W. G., 3615
McGrew, J. R., 606
McGuire, D. C., 1070, 1078, 4892
McGuire, J. J., 5238
Macha, R. L., 4442
Machado S., A., 1907
Machicado, M., 1861
Machin, B. J., 5121
McIntosh, A. H., 2272
McIntyre, M. L., 1192, 3205
Mack, A. R., 2203
Mackauer, M., 2858
MacKay, D. C., 975, 6585, 6587
McKay, J. W., 6297
McKeen, C. D., 4850
McKeen, W. E., 4641
McKelvey, S. A., 2478
Mackinney, G., 5926
MacLauchlan, J. W. G., 4129
McLean, D. M., 3405, 4852, 5309
MacLellan, C. R., 6429
McLeod, A. G., 5320
McMechan, A. D., 771
McMullen, A. I., 7495
McMurtrey, J. E., Jr., 3490
McMurtry, J. A., 3646
MacNeill, B. H., 5074
McNelly, L. B., 4675
McNicholas, F. J., 4435
McNulty, I. B., 2177
McPhail, A. T., 3555
MacPhee, A. W., 603
MacQueen, K. F., 3065
MacQuown, F. R., 5146
MacRill, J. R., 3734
MacSwan, I. C., 2702
McVey, G. R., 5222
McWhorter, F. P., 6838
MacWilliam, I. C., 3610
Mączyńska, A., 6981
Madan, C. L., 1516, 1555, 5365
Madden, E. A., 1240
Madison, J. H., 3328, 6893
Madsen, H. F., 754, 2798, 4673, 4675, 4676, 4690, 4696, 6399, 6400, 6443
Magee, C. J., 5548, 7379
Magelli, E., 4739
Maggenti, A. R., 6328
Maggs, D. H., 4346, 4362
Magie, R. O., 1188, 1220, 1221
Maginnes, E. A., 1200, 1201
Magness, J. R., 378
Magnus, K. E., 1542
Mago Navarrete, P., 2087
Magpantay, C. R., 7183
Magsino, H. J., 1017
Mahajan, V. K., 5017
Mahalova, M. R., 3113
Mahata, K. C., 5790
Maherchandani, N., 3242
Maheshwari, P., 7142
Mahlstede, J. P., 1279
Mahnovskij, I. K., 4699, 6470
Mai, W. F., 4972
Maia e Vale, M. A., 3542, 3552, 3627
Maiden, A. C. B., 1900
Maier, C. R., 2963
Maier, J., 7174
Maier, L., 4189
Maier-Bode, H., 2692, 4997
Maine, E. C., 3471
Maison, P., 6762
Majorana, G., 1707, 6768
Majsuradze, N. I., 1665, 3670, 7249
Majumdar, A. K., 3972
Majumdar, P. K., 1839, 5664, 5667, 7461, 7464, 7471
Maksimova, E. V., 1181
Maksimow, A., 6493
Maksjutina, N. P., 6709
Malan, A. H., 543
Malaya, Department of Agriculture, 197
Malaya, Rubber Research Institute, 3924, 7482, 7483, 7484, 7485, 7486, 7487, 7488
Malhotra, C. L., 3557
Malik, H. C., 5101
Maliphant, G. K., 5591, 5592, 5593
Maliszewska, W., 6491
Maljarenko, S. G., 1567
Maljutin, N. I., 5136
Mallik, P. C., 1944, 1960, 5668
Mallo, R., 733
Mallozzi, P., 7568
Malmlöf, O., 5944
Malo, F., 1852
Malo, S. E., 1730
Malquori, A., 6266
Maltais, J. B., 6630
Mamaev, K. A., 4712
Mamedov, R. A., 585
Mameli Calvino, E., 3191
Mamprim, O. A., 3868
Mancinelli, P., 7126
Manciot, R., 1895
Mandryk, M., 5315, 7063, 7065
Mandy, B. W., 5672
Mándy, G., 1591
Mangat, B. S., 3725
Mani, R., 2156
Maniyar, A. K., 1951
Mankau, R., 1140, 3181, 7267
Mann, B., 6773
Mann, G., 2260
Mann, T. J., 1369, 3411, 5284, 6974, 7036
Mann, W., Jr., 3051
Manolache, C. I., 4671
Manos, G. E., 5867
Manser, P. D., 2088
Mansfield, T. A., 33, 5936
Mante, W., 4242, 5991
Manuel, J., 5618
Mao, Y. T., 2329
Mapother, H. R., 1450
Marais, P. G., 6069, 6269
Maramorosch, K., 1887, 5628
Marar, M. M. K., 1884, 1885, 7403
Maravall Casesnoves, D., 3143
Marcelli, E., 1436, 1441, 3443
Marchidan, D., 994
Marcotte, M., 6521
Mareček, F., 798
Marek, J., 361
Marenaud, C., 2399
Margolin, A. F., 6027
Margutti, A. M., 4985
Mariani Colombo, P., 5186, 5202
Mariconi, F. A. M., 5340
Marinelli, M. C., 2953
Marinescu, R., 4916, 4998, 5090
Markarian, D., 3110
Markwardt, E. D., 6124, 6138
Marlatt, W. E., 5010
van Marle, G. S., 4571
Marloth, R. H., 1672
Maroc, Ministère de l'Agriculture, 4240
Marras, F., 2863
Marrou, J., 977, 4593
Mars, S., 6812
van Marsbergen, W., 3369
Marschner, H., 4067
Marşeu, P., 7018
Marsh, R. W., 5800
Marshall, D. C., 2452, 6153
Marshall, H. H., 4920
Marshall, H. V., Jr., 7057
Marshall, J., 4690

Marshall, M., 4188
Marshall, R., 4173
Martens, P. H., 2286, 2289.
Martí-Ventosa Pages, M., 5835
Martin, C., 3468
Martin, D., 2545
Martin, D. G., 5413
Martin, D. W., 5863
Martin, F. W., 4796
Martin, G. C., 5427
Martin, J. A., 2849
Martin, J. P., 1675, 1737
Martin, J. T., 648, 765, 766
Martin, L., 1578
Martin, L. W., 593
Martin, T., 4535
Martin, W. C., 1308
Martinenghi, G. B., 5528
Martinez, A. C., 3804
Martinez, J. A., 7376
Martinez, R., 6018
Martínez Zaporta, M., 6242
Martini, C. K. H., 7330
Martinović, M., 1193, 4970
Martin-Prével, P., 2003, 7355
Martinson, C., 870
Mart'janova, K. L., 3126
Martyr, R. F., 3129
Maruyama, T., 5785
Marvin, J. W., 1624
Marx, G. A., 2984
Marzec, B., 7017
Marzi, V., 4739, 6608
Mashalkar, S. R., 3782
Maškovcev, M. F., 5292
Maslo, E. M., 2792
Mason, G. W., 79, 6703
Massachusetts Agricultural Experiment Station, 5970
Massey, D. M., 5092, 5093
Massey, P. H., Jr., 4762
Massfeller, D., 59, 7077
Massie, I. E., 1381
Massini, P., 4875
Maštakova, A. H., 6571
Mastalerz, J. W., 3201, 6797, 6822
Masten, V., 4650
Masui, M., 900
Masuo, Y., 3459
Masutti, L., 4670
Matchett, W. H., 5877
Mateescu, N., 481, 994
Materazzi, M., 72
Matherly, E. P., 6925
Mathew, P. K., 3879
Mathews, G. R., 3491
Mathey, H., 4507
Mathôt, A. M., 109
Mathur, B. P., 3967, 3968
Mathur, R. C., 910
Mathur, R. N., 5341
Mathur, R. S., 1943, 6478
Mathys, G., 706, 757
Matienko, B. T., 3628
Matolcsy, G., 58
Maton, A., 1596, 5415
Matran, C., 4551
Matsumoto, H., 3558, 7200
Matsuura, H., 866, 1002
Matsuura, R. M., 5020
Matsuyama, S., 5335
Matthews, A. A., 2066
Matthews, C. D., 290, 2541
Matthews, J. D., 4056
Matthews, R. E. F., 7054
Matthysse, J. G., 5226
Mattocks, A. R., 1506
Mattus, G. E., 366, 427
Matuhin, G. R., 1181
Matusiewicz, E., 7001, 7014, 7024
Matuyama, N., 6372
Matveenko, T. M., 3433
Matvievskij, A. S., 2775
Matzinger, D. F., 6974
Matzner, F., 4399, 6181
Maude, R. B., 6771
Maugini, E., 5368
Maurel, A., 1560
Maurer, A. R., 4186
Maurer, K. J., 599, 4282, 6304
Mauritius Department of Agriculture, 4236, 4732
Maxwell, C. W., 730
Maxwell, F. G., 6607
Maxwell, N. P., 3739
May, C., 5227, 5904
May, P., 2648, 2662
Mayer, A. M., 3011
Mayer, N., 2664
Mayes, R. L., 889, 5208
Mayeux, P. A., 5738
Maynard, D. N., 4994
Mayo, I., 1346
Mayr, H. H., 2297
Mazhar, H., 1964
Mazliak, P., 5430
Mažorov, E. V., 337, 6086
Mazumder, P. K., 3793
Mazur, M., 2554
Mazzei, A. M., 2628
Mazzi, S., 32, 4847
Mazzini, C., 444, 6092
Meader, E. M., 5030
Meadows, M. W., 6683
Meahl, R. P., 1305
Medeiros, A. G., 1139
Mederski, H. J., 121
Medina B., J., 4977
Medina, D. M., 3880
Medina, J. C., 3502
Medvedev, Ž. A., 125
Meer, W. A., 1529
Mehlhorn, L., 5199
Mehlis, B., 1517
Mehlquist, G. A. L., 1163
Mehra, P. N., 7131
Mehta, B. V., 18, 7459
Mehta, R. P., 3968
Mehwald, J., 4812
Meier, G., 343, 2519, 4275
Meier, W., 6632
Meiffren, M., 3891
Meijaard, D., 821
Meinl, G., 826
Melin, E., 5951
Melis, A., 5524
Melkonjan, A. S., 6265
Mellado Brauns, L., 2211, 2213
Mellenthin, G., 2571, 4248
Mellini, E., 6450
Mello, H. do A., 7206
Mello, M., 318
Mellor, F. C., 628
Mellor, J. D., 387
Mel'nikova, K. D., 2420
Meltzer, J., 694
Melville, F., 229
Melvin, C. F., 5498
Menard, L. N., 5642
Menchú E., J. F., 3893
Mendes, A. J. T., 5644
Mendes, H. C., 5641
Mendes, J. E. T., 3870
Menon, K. P. V., 1871 5630, 7401
Menon, O. R., 1878
Menon, R., 1826, 1827
Menzel, W., 3003
Mercado, B. T., 7397
Mercer, F. V., 2236
Merchant, C. H., 2525
Merculiev, O., 4509
Meredith, D. S., 1842, 1846, 3813, 3814, 5561, 7363, 7369
Meredith, R. M., 4186
Merelo de Barbera, S., 2173
Merker, J., 5272, 5331
Merle, L., 7278
Merrill, S., Jr., 5533, 6295
Merritt, R. H., 428, 4433
Merrow, S. B., 904, 6563
Merry, C. A. F., 3996, 5744
Messiaen, C. M., 2962, 6762
Messori, A., 6206
Mészáros, F., 5409
Mészáros, L., 5013
Mészöly, G., 1066
Metcalf, R. L., 6541
Metzner, R., 4477
Mevius, W., 2330
Mewissen, F., 6084, 6692
Meyer, C. F., 2479
Meyer, J., 3364, 6928
Meyer, R. E., 2243
Mez, E., 557

Mezzetti, A., 2703, 4613, 5530, 6161
Micev, I., 1614
Michael, G., 4067
Michael, H., 397
Michaux, P., 1992
Michel, B. E., 2886
Michel, É., 7090, 7093
Michelbacher, A. E., 751, 4704
Michniewicz, M., 5873
Mickovski, J., 5265, 7087
Micu, I., 4272
Middelburg, H. A., 6528
Middleton, J. E., 2200, 6060
Middleton, J. T., 4049
Middleton, K. R., 5923
Miehe, H., 2330
Mihailov, M. K., 1423
Mihalca, G., 4514
Mihata, K., 1997
Mijušković, M., 4702
Mikaeljan, V. M., 341
Mikola, P., 5951
Mikolajčik, I. A., 2775
Milaire, H., 2815, 2816, 4708
Milatović, I., 4650
Milbrath, J. A., 2715, 6320, 6327
Milella, A., 2483, 3663, 3753, 7318, 7324
Miles, J. D., 3440, 7010
Mileško, L. F., 2152
Millecan, A. A., 6311
Miller, C. H., 1058
Miller, E. V., 3186, 3187
Miller, H. F., 1381
Miller, H. N., 5198, 6941
Miller, J. C., 3051
Miller, M., 4495
Miller, P. M., 607, 3486, 5114, 5321, 6365, 6384, 6621, 6622
Miller, P. W., 4594, 6333
Miller, R. A., 1160
Miller, R. D., 5828
Miller, R. O., 1344, 3260, 3358
Miller, S. R., 241
Miller, V. L., 1251, 3314
Miller Azzi, G., 5746
Milletti, R., 2214
Millham, J. O., 5298
Millikan, C. R., 4068
Millikan, D. F., 4164, 4578
Millington, W. F., 6633
Mills, H. H., 4303, 6112
Milne, D. L., 1377, 1442, 1449, 3487, 7088
Milogradova, E. I., 1626
Milosavljević, M., 6226
Minasjan, A. I., 6265
Miner, J. T., 5669
Minett, J. E., 1178
Minges, P. A., 6744
Ministère de l'Agriculture, Belgique, 4568
Ministère de l'Agriculture, Maroc, 4240
Ministerie van Landbouw, The Hague, 5955
Ministre de l'Agriculture, Quebec, 5974
Ministry of Agriculture, London, 73, 217, 469, 721, 1173, 1207, 2174, 2274, 2310, 2395, 2747, 2791, 2876, 2985, 3000, 3069, 3218, 4132, 4142, 4146, 4196, 4220, 4249, 4369, 4407, 4463, 4692, 4697, 4706, 4711, 4810, 4862, 4929, 4996, 5004, 5168, 5179, 5187, 6055, 6185, 6702
Ministry of Agriculture, Northern Ireland, 5971
Mink, G. I., 4580
Minoiu, N., 4644
Minshall, W. H., 3132, 6708
Minteer, R. J., 7267
Minz, G., 2757, 3770
Mircea, C. I., 4363
Mircetich, S. M., 5440
Mirocha, C. J., 4651
Misaki, A., 7164
Misawa, T., 6372
Mischke, W., 4589
Misra, D. K., 7151
Misra, K. P., 6614
Misra, P. S., 1509
Mississippi Agricultural Experiment Station, 4221
Mišurenko, A. G., 6228
Mital, S. P., 6734, 6740
Mitchell, A. E., 4352
Mitchell, D. G., 1867
Mitchell, H. W., 7426
Mitchell, J. E., 4153, 4927
Mitchell, J. W., 934, 2240, 2251, 4885
Mitchell, R., 2965
Mitchell, W. D., 6557
Mitidieri, J., 4958, 6677
Mitra, J., 3296
Mitra, N., 3972
Mitrofanov, P. I., 3721
Mitsui, M., 2112, 2113, 5772
Mittal, T. C., 7131
Mittempergher, L., 333, 6016
Mobbs, J. A., 5544
Mochizuki, T., 6073
Mőcsényi, M., 3199
Modi, V. V., 1045
Modic, D., 2382
Modlibowska, I., 265, 271, 4213
Modoran, I., 464, 4292, 4318, 4364, 4453
Moens, P., 7415
Moffitt, H. R., 723
Moh, C. C., 5645
Möhring, H. K., 2343, 5811, 6788
Moisejčenko, V. F., 6070
Moity, M., 3794
Moje, W., 5440
Molčanov, A. I., 6232
Moldenhauer, W., 3454
Molkup, V., 2976
Molle, A. L., 5269
Moller, R. B., 2091, 5747
Moller, W. J., 2732, 2759, 2993
Molnár, L., 682
Molokoedova, L. F., 4824
Molotkovskij, G. H., 38, 6696
Molotkovskij, Ju. G., 38
Mônaco, L. C., 3858
Monastero, S., 728
Money, S. P., 2857, 4759, 6498
Monge, G. G., 7567
Monin, A., 246, 2433, 2496
Monk, H. E., 114
Monk, R. J., 3457, 3461
Monk, R. W., 3197, 3198
Monnet, J., 5547, 7347
Monselise, S. P., 4351, 7247
Montagnac, P., 1820, 2159, 3576
Montarini, V., 3191
Monteiro, G. R., 3868
Montenegro, L., 5640
Montgillion, M. D., 938, 2967, 3125
Montgomery, H. B. S., 6162
Montironi, A., 3652
Montoya, L. A., 1920, 7429
Monzini, A., 2535
Mookerjee, A. L., 5488
Moomaw, J. C., 3558, 3774
Moore, C. S., 4347
Moore, D. M., 1204
Moore, E. L., 1371, 1775, 2872, 4788, 5259
Moore, G. R., 4756
Moore, J. N., 2564, 4449, 4642
Moore, M. H., 4213, 4615
Moore, R. C., 233, 363
Moore, R. J., 5232
Moore, T. C., 6623
de Moraes, M. V., 1923
Morand, J.-C., 436, 4490
Moravec, J., 1028, 3080, 3081, 6639
Morden Experimental Farm, Manitoba, 168
Moreau, B., 7372
Moreau, C., 3735
Moreau, M., 3735
Morehart, A. L., 6779

Moreira, C. S., 7206
Moreira, M. I. S., 2212
Moreira, S., 1722, 3652, 3666
Moreton, B. D., 4947
Morettini, A., 230, 234, 1792, 1793, 2389, 2413, 3191, 4476, 4739
Morez, H., 5545, 7204
Morgan, D. G., 6536
Morgan, H. G., 3313, 6334
Morgan, N. G., 705, 717
Morgan, O. D., 6396, 7059
Morgenstern, L., 7254
Mori, H., 297, 306, 309, 310, 2215
Mori, P., 1440
Morimont, A., 5412
Morimoto, J. Y., 5407, 7163
Moriondo, F., 2454, 4304
Morita, S., 2462
Morlova-Popescu, I., 4519
Morozova, R. S., 5057
Morphy, R. P., 3936
Morris, D. S., 6864
Morris, H. F., 5998
Morris, J. R., 296, 4413
Morris, M. P., 1527
Morrison, H. E., 3088
Morrison, J. W., 4127
Morrison, L. S., 640
Morrison, S. W., 6137
Morrison, W. W., 401
Morrow, I. B., 6908
Morrow, R. R., 1270
Morse, R. N., 5933
Morton, E. S., 3686, 4184
Morton, J. F., 5366
Morton, R. A., 1554
Morvan, G., 4584
Moschini, E., 4739
Moschkow, B. S., 4745
Moscicki, Z. W., 47
Moser, L., 2674, 6268
Moss, D. N., 5847
Moss, N., 3578
Mosse, B., 4203
Motsinger, R. E., 1443
Motts, G. N., 2398
Moulton, J. E., 215, 4270
Mounat, A., 6975, 7030
Mounsey-Wood, B., 2887
Moutous, G., 4601
Mowry, J. B., 232, 4444
Moycho, W., 5076
Moyer, J. C., 6273
Mozsár, K., 2928, 2929
Mrożewski, S., 2554, 6119, 6200
Mueller, R. T., 1715, 5438
Muhamedov, G. K., 6220
Muhammad, N., 7190
Muhanova, Ju. I., 6582
Mühlendych, E., 6508
Mühlmann, H., 2824
Muir, R. C., 4715
Mujdaba, F., 4510
Mukerjea, T. D., 7558
Mukerjee, P. K., 3911, 3912
Mukerji, B., 1538, 5382
Mukherjee, S., 1583
Mukherjee, S. K., 5664, 5667, 7461
Mukherjee, T. D., 2149
Mukherji, D. K., 5817
Mukhopadhyay, S. K., 3973
Mukula, J., 280
Mulat, B., 5661
Mulder, D., 2140, 2143, 7551, 7555
Muller, A., 7336
Müller, B., 3476
Müller, F., 2892
Müller, H. J., 6357
Müller, H. W. K., 2769
Müller, N., 4741
Müller, R., 3441, 5650
Müller-Fembeck, J., 2466
Mullins, W. R., 1015
Multamäki, K., 2980, 4907, 4910
Muma, M. H., 7274
Mumford, F. E., 4106
Munasinghe, H. L., 2022
Münch, J., 3230, 3335
Mungomery, R. W., 5747
Munier, P., 1779, 3768
Munier, R., 7570
Munro, R. J., 3614
Murakami, H., 297
Murakami, Y., 5876
Murakishi, H. H., 3074
Murashige, T., 64, 3233
Murata, T. G., 320
Murawski, H., 268, 2562
Murphy, H. J., 4123
Murphy, T., 864, 5819
Murray, D. B., 4177, 5577, 5584, 5585, 5587
Murthy, K. N., 3778, 7343, 7344
Murty, B. R., 3418, 5301, 6969, 6976
Murty, G. S., 3418, 5301, 6976
Murty, Y. S., 1510
Muse, D. P., 3237, 3270
Mušnikova, K. S., 2842
Mustafa, G., 1975
Mustafin, A. M., 881
Muthuswamy, S., 6257
Myburgh, A. C., 731, 2786, 2787, 3760, 4686
Myers, J. M., 1223, 1380
Myślicka, Z., 7172
Mysore Department of Agriculture, 198
N.A.A.S., 157, 158, 166, 169, 176, 177, 179, 181, 776, 2348, 2349, 5969
Nacvlišvili, D. T., 6236
Nadarajah, M., 3939
Nadazdin, M., 1376
Naegele, J. A., 103, 2283, 6874
Nagarajan, G. R., 5541
Nagarajan, M., 874, 921, 7396
Nagarajan, S. S., 6729
Nagasawa, K., 327
Nagatomo, A., 327
Nagornyj, N. I., 6228
Nagy, L., 6259
Nagy, P., 2502
Naidu, G. V. B., 1829, 3780, 3782, 7342
Nair, A. G. R., 6956, 7140
Nair, P. C. S., 1686, 7462
Nair, P. K. R., 235, 356, 1503, 4389
Naito, N., 3771
Nakagawa, H., 827, 841, 842, 843, 1075
Nakamura, E., 831, 2879
Nakamura, R., 1812
Nakashima, W., 1997
Nakasone, H. Y., 3348, 4033, 5797
Nakayama, A., 2115, 5764
Nakayama, F. S., 2238
Nakayama, M., 1146, 3158
Nambiar, K. K. N., 3884
Nambiar, M. C., 1873
Nambiar, P. K. V., 1493, 7113
Nambisan, K. M. P., 3791, 3795
Nance, J. F., 5877
Nanda, K. K., 1198
Nangniot, P., 112, 2289, 2914
Nankivell, W. I., 1671, 1764
Nápoles, V. M., 3886
Narain, R. K. J. P., 1610
Narasimhachari, N., 6963
Narasimhaswamy, R. L., 1940, 3883, 3884, 7413, 7423
Narayanan, C. R., 1513
Narayanan, R., 1486, 1893
Narayanaswamy, P. S., 1062, 1136, 2955, 3050, 3994
Nash, T., 4048
Nash-Wortham, J. R. H., 2261
Nasir, S. M., 5709
Năstase, O., 4391
Natal'ina, O. B., 2608
Natarajan, C. P., 7457
Natarajan, P. N., 1546
Nath, N., 5531, 5532, 7248
Nathanael, W. R. N., 1894, 3854
National Institute of Agricultural Botany, Cambridge, 774, 780, 4793, 4801

National Rose Society of Great Britain, 5212
National Vegetable Research Station, Wellesbourne, 773, 6471
Natti, J. J., 2884
Nauer, E. M., 1664, 5445
Naumann, W.-D., 498
Naundorf, G., 5569
Navellier, P., 5658
Naves, Y.-R., 7154
Naville, R., 1830
Nawaz, M., 1976
Nayar, K. C., 1547
Nayar, S. L., 1516, 1531, 1532, 1555
Nayudu, M. V., 829, 3169
Nazarenko, S. I., 6043
Nazarov, S. S., 769
Nazir, B. N., 1552
Neas, I., 1397
Neave, E. L., 2689
Nečaev, L. N., 585, 586
Nedelchev, N., 4496
Neefjes, P. J., 6786
Neel, W. W., 6440
Neelakantan, S., 4036, 5799
Neelakantan, V., 7459
Neely, D., 6950
Negreanu, E., 4499
Negru, A., 2750
Negrul', A. M., 6210, 6275
Neill, J. W., 1296
Neiswander, R. B., 725
Nelson, C. D., 5280, 5855
Nelson, C. E., 7167
Nelson, D. C., 4841
Nelson, I. S., 3296
Nelson, K. E., 582, 6283
Nelson, M. R., 6568
Nelson, P. K., 5103
Nelson, S. H., 241, 4058
Németh, M., 629, 4583, 6312
Nepokroeff, C. M., 4886
Neri, M., 6047
Nesterov, Ja. S., 6030, 6096
Nestjuk, M. N., 2152
Nettles, V. F., 906, 6722
Neubeller, J., 4425
Neumann, U., 6074
Neury, G., 739
Neuss, N., 5392
Neuvel, J., 1212, 1226
Neves, C. M. B., 2212
Nevinnyh, V. A., 7159
Nevstrueva, R. I., 1567
Newman, D. W., 2177
Newton, J. R., 4695, 6431
New York State Horticultural Society, 5956
New Zealand Department of Agriculture, 171
New Zealand, D.S.I.R., 172, 173
Nezgovorov, L. A., 883, 2219
Nguyen-Huu-Thuoc, 7246
Nicholas, H. J., 1568, 3567
Nichols, C. W., 253, 1219, 6311
Nichols, L. P., 1219
Nichols, R., 4076, 5582, 5595, 5599, 5606
Nickel, J. L., 3817
Nickell, L. G., 1202
Nicolaisen, W., 4827
van Niekerk, P. E. le R., 6069
Nielsen, D. R., 6746
Nielsen, G., 2308
Niemeyer, L., 2693
Niethamer, A., 4204
Nieto H., V., 4837
Nieuwhof, M., 2893, 4774, 4783, 4792
Nigam, B. G., 1480
Nigam, M. C., 1292
Nigam, S. K., 1558
Nigeria, Federation of, Department of Agriculture, 2366
Nigeria, Northern Region, Ministry of Agriculture, 199, 2367
Niiuchi, K., 1145
Nijazov, D., 248
Nijveldt, W., 4689
Niketić, G., 6581
Nikiforova, N. A., 6571
Niklaus, L., 2907, 3061, 6353
Nikolaev, P. I., 2755
Nikolaeva, E. D., 2820
Nikolenko, V. G., 6229
Nikolić, R. T., 3522
Nikolova, M., 5216
Nilov, V. V., 6287
Nilsson, F., 2405, 2513
Ninan, C. A., 1876, 3846, 5623
Nirvan, R. S., 2371, 3712, 3737
Nisbet, R. B. C., 3271
Nisen, A., 139
Nishida, T., 1807, 1809
Nitsch, C., 47, 4766
Nitsch, J. P., 47, 4766
Noguchi, M., 5287
Nolan, O. N., 1697
Noll, C. J., 783, 6477
Noll, J., 2858
Nolting, G., 5132
Nombela, M., 7184
Nonnecke, I. L., 790
Nordenes, M., 5820
Norman, A. G., 150
Norman, G., 3709, 7261
Norman, G. G., 1719
Norman, S. M., 1770
Norris, R. E., 1676, 5507
Norris, W. E., Jr., 4966
North, C., 822, 2885, 4778, 4785, 6519, 6579, 6699
North Carolina School of Agriculture, 4222
North of Scotland College of Agriculture, 174
Northen, R. T., 5200
Northern Ireland, Ministry of Agriculture, 5971
Northern Nut Growers' Association, 5957
Northern Rhodesia Department of Agriculture, 5982
Norton, G., 5832
Norton, R. A., 6140
Nottingham University, School of Agriculture, 175, 5972
Nova Scotia Department of Agriculture, 6099
Novák, J. B., 2859
Novembre, D., 3657
Noveroske, R. L., 4620
Novikov, V. K., 6520
Novotná-Veselá, I., 3052
N.S.W. Department of Agriculture, 170
N.S.W. Department of Agriculture, Biological Branch, 935, 1725, 1726, 4140, 4609, 4649, 4805, 4937, 4969, 5562
N.S.W. Department of Agriculture, Division of Plant Industry, 920, 1074, 2956, 4844, 4990
N.S.W. Department of Agriculture, Entomology Branch, 1804, 4750
Nuber, K., 1592, 7171
Nucifora, A., 1745
Nuernbergk, E. L., 4745
Nusbaum, C. J., 1446, 3384
Nutman, F. J., 3882, 5649, 7443
Nuttall, V. W., 3065
Nwanze, S. C., 1995
Nyasaland Department of Agriculture, 2368
Nyboh, N., 2582, 2610
Nye, I. W. B., 5633
Nye, W. P., 1031
Nyhlén, Å., 279, 2536
Nylund, R. E., 4841

Oakley, E. T., 5298
Oatman, E. R., 4677, 4684
Oberbacher, M. F., 1763, 5494, 7275, 7288, 7289, 7298
Oberhofer, H., 6403
Oberle, G. D., 233, 4261, 4267
Oberly, G. H., 420, 2430
O'Brien, M. J., 6685
O'Callaghan, T., 2580

Ocaña G., G., 5603
O'Daniel, W., 345, 2534, 2831, 6160, 6355
Odhnoff, C., 22
Odland, M. L., 783, 6477
Odmark, G., 5840
Oei Hong Peng, 4024
Oertli, J. J., 19, 1244, 1245, 3305, 5205, 5206, 5830
Ōgaki, C., 1767
Ogata, K., 3064
Ogawa, J. M., 2529, 2740, 4438
Ogawa, T., 4964
Ogawara, K., 3424
Ogden, W. B., 3426
Ogilvie, L., 803
Ognyanov, J., 1562
Ohasi, H., 7153
Ohio Vegetable and Potato Growers' Association, 4730
Øhlers, H., 6111
Ohno, M., 362
Ohno, T., 7123
Ohova, E. P., 6778
Ohta, Y., 6726
Okada, F., 5784
Okamoto, T., 415, 6150
Okanagan Agricultural Club, Fruit Varieties Committee, 2393
Oknina, E. Z., 484
Okruszko, H., 5055
Okuda, A., 6494
Okulist, I. M., 6225
Okuse, I., 6032
Olah, S. E., 3187
Olangiu, M., 6369
Oldén, E. J., 2447
Olechnowicz-Stepień, W., 5239
Oleško, P. M., 6224
de Oliveira, A. S., 567
d'Oliveira, B., 3885
Oliveira, V. G., 3666
Olivera, A. de. J., 3616
Olivier, P., 5546
Ollagnier, M., 3848
Olmo, H. P., 4257
O'Loughlin, G. T., 6647
O'Loughlin, J. B., 6136
Olschowy, G., 2176
Olsen, K. L., 2524
Olsen, R. W., 1774
Olson, A. R., 6896
Olsson, K., 4618, 5129
Ōmaru, T., 4995
Ones, N., 4246, 4464
Ongun, A., 5844
Onigoaie, M., 4381
Ono, H., 1182
Ono, K., 3424
van Onsem, J., 1208
Ontario Agricultural College and Experimental Farm, 2350
Ontario Department of Agriculture (Vineland), 2351
van Oorschot, J. L. P., 1050, 4182, 6592
Oostenbrink, M., 687, 688
Opel, H., 912
Opitz, K. W., 1661
Oppenheimer, C., 3901, 7312
Oppenheimer, H. R., 7224
Oprea, S., 4534
Opsahl, B., 845
Orange Free State, Department of Agricultural Technical Services, 2352
Orchard, B., 133
Ordin, L., 4100
Ordish, G., 5897
Orellana, R. G., 5419
Organisation for European Economic Co-operation, (O.E.E.C.), 7, 74, 5804
Orgijan, B. A., 2471
Orieux, L., 90
Orillo, C. A., 3047
Orillo, F. T., 7441
Orlando, A., 4145, 5652
Orlando, J. R., 7225
O'Rourke, F. L. S., 1273, 4564, 6939
Orr, E., 5352, 7155
Orr, H. P., 3399
Orsenigo, J. R., 801, 2068, 4757, 6487, 6683, 7508, 7509
Orth, H., 2858
Orth, P. G., 7208
Osadgi, C., 4506
Osawa, T., 796, 3095, 4749
Osborne, D. J., 4116
Osepajšvili, A. A., 580
Osgood, C. E., 2972
Östlind, N., 2391
Oteifa, B. A., 3177
Ōtsuka, K., 3140, 3141
Ottermann, A., 2989
Otto, A., 3193, 5155
Otto, C., 6812
Otto, G., 2199,
Oujan, Š.-Ž., 6251
Ourecky, D. K., 5021
Overcash, J. P., 4259, 4319, 4471, 6023, 6067
Over de Linden, A. J., 4061
Overman, A. J., 6851, 6852, 6871
Overmeer, W. P. J., 760
Ōwada, A., 1682
Ōwada, T., 802, 1003, 2898
Oxenham, B. L., 1716
Ozaki, H. Y., 885, 6721
Ozanne, P. G., 2205
Ozawa, H., 108
Ozawa, T., 3323

P., G., 6932
Pacewiczowa, T., 6646
Paddick, R. G., 3409
Paden, J. W., 1009
Padfield, C. A. S., 426, 6153
Padhye, V. P., 1816
Padgett, J. H., 3217
Padmanabhan, V., 1884
Padula, G., 6009
Pag, H., 3247
Page, H. L., 5813
Pai, R. M., 1499
Paine, R. W., 5556, 5557
Painter, R. H., 4861, 6607
Pakrashi, S. C., 1533
Palamarčuk, A. S., 1021
Pálfi, G., 5007
Palilov, A. I., 2259
Pal'k, Ja, Ju., 262
Pallas, J. E., Jr., 4874
Palmer, E., 4205
Palmer, J. G., 3375, 3376, 6850, 6883
Palmer, J. K., 3801
Palmer, M. J., 1488
Palmer, R. D., 7510
Palmiter, D. H., 6367
Palti, J., 2947
Panagopoulos, C. G., 1189
Pancho, J. V., 3386
Pánczél, M., 6240
Pandalai, K. M., 1879, 1884, 1885, 5627, 7396
Pandele, I., 4310, 4557, 4565
Pandey, I. C., 1943, 3897
Pandotra, V. R., 7144
Panetsos, C., 5522, 6293
Panje, R. R., 2040, 2044
Pankajakshan, A. S., 1876
Pan'kiv, R. K., 6806
Pannell, A. G., 5107
Pančin, I. A., 742
Pan'šin, I. V., 6428
Panteleeva, E. I., 6604
Pantić, Ž., 4544
Pao, T. P., 2048, 2055, 5719
Paolini, F., 7329
Papaioannou, C., 1405
Papasolomontos, A., 7256
Papavizas, G. C., 4923
Pape, H., 6872
Pape, J., 4243
Pappas, J. L., 1754
Pappas, N. A., 7037
Papua and New Guinea Department of Agriculture, 2369
Papua and New Guinea Department of Agriculture, Entomology Section, 5609

Paquay, R., 1901, 7427
Paquin, R., 6776
Paracer, C. S., 4924
Paradis, R. O., 4672
Parameswar, N. S., 7341
Parameswaran, N., 3391
Pardini, G., 4739
Parekh, C. M., 4398, 5511
Parent, B., 4655, 4663
Pares, R. D., 2707, 4585
Paris, C. D., 1152
Park, E. L., 2379
Park, P. O., 7389
Parker, K. G., 2726, 6342
Parkhe, D. P., 1448
Parkinson, A. H., 5940
Parkinson, D., 4899
Parmakov, D., 3494
Parreira, P., 1934
Parrini, U., 3655
Parthasarathi, K., 7157
Parthasarathy, S. V., 2046, 3958
Parthier, B., 7042
Parups, E. V., 1401, 1402, 5277, 7027, 7028
Parvin, P. E., 3380, 6943
Parys, J., 4154
Pastena, B., 515, 519, 2632, 6254
Paszewski, A., 4112
Patchen, G. O., 2524
Patel, G. C., 1375, 3437, 7000
Patel, G. J., 5324, 6967
Patel, K. A., 1363, 1412
Patel, P. N., 4887
Paterilo, G. A., 2730, 2743
Paterson, E. C., 3656
Pathak, S. R., 5753
Pathasarathi, K., 5400
Patiño, G., 4894
Paton, D. M., 4912
Patrick, Z. A., 4751, 4891
Patwa, D. K., 1045
Paul, B. B., 2103
Paul, V., 1564, 1615, 1623
Paulin, A., 5161, 6145
Paulus, A. O., 5475, 7211
Paulus, E., 5429
Pause, J., 4833
Pauwels, G. W. F. H. B., 795, 5922
Pavlek, P., 4786
Pawlowski, H.-E., 6791
Payumo, E. M., 7467
Pčelarov, V., 4908
Pčelarova, P., 4908
Pea Growing Research Organisation Ltd, 954
Peachey, J. E., 1849, 6397
Pearce, E. T. S., 7532
Pearce, S. C., 4159
Pearse, H. L., 3434, 5268
Pečijareski, D., 3460
Pedersen, K., 5953
Pedráza González, R., 7296
Peggie, I. D., 7290
Peirce, L. C., 899
Pejkić, B., 4370
Pejml, K., 3593
Pejve, Ja. V., 24
Pelhate, J., 7160
Pellegrini, G., 7319
Pelletier, R.-L., 6366
Pemberton, L., 4056
Pengili, M., 511
Penningsfeld, F., 1267, 3194, 3246, 5201, 6915, 6916
Penny, N. M., 5337
Pentzer, W. T., 605
Penunuri, E., 7122
Peper, H., 6809
Perdue, R. E., Jr., 1627, 1628, 1631, 3503
Perehodkin, L. P., 6098
Pereira, H. C., 7110
Peresypkin, V. F., 2744
Perez B., F., 5435
Pérez, J. E., 3167
Perez, M. E., 7567
Pérez-Fonrodona, A. A., 7456
Pérez López, A., 3632
Perfanov, G., 5274
Perfil'ev, V. E., 242
Peries, O. S., 648, 6174
Perišić, M., 631
Perlova, R. L., 6520
Pernerstorfer, H., 2597
Pernerstorfer, J., 2537
Perrau, A., 2171
Perraudin, G., 417
Perrin, D. R., 89, 2275
Perring, F. H., 5952
Perry, J. S., 945, 6601
Perry, R. L., 3672, 7227
Pershad, G. D., 1228
Personius, K., 6874
Perstnev, N. D., 6427
Perticarà, G., 13
Perú, Estación Experimental Agrícola en Tingo Maria, 200
Pesante, A., 703
Pesserl, G., 6172
Pest Infestation Research Board, 4223
Pesticide Research Institute, London, Ontario, 86
Petersen, D. H., 4573
Peterson, C. E., 1029, 3091
Peterson, E. K., 507
Peterson, H. B., 3197
Peterson, K. R., 5892
Peterson, L. E., 899
Pethő, F., 2574
Petiet, J., 5170, 6680, 6854
Petit, R., 1903
Petkov, C. I., 6479
Petrescu, C., 5058
Petrescu, G., 994
Petříček, D., 3606
Petrlík, Z., 3587, 3593, 3594, 3595, 3596
Petročenko, U. A., 2256
Petronici, C., 1704
Petruccioli, G., 3754
Petrusevič, P. S., 138
Petrušova, N. I., 2799
Pettersson, B., 40
Pevná, V., 1054, 1055
Peyer, E., 678, 4539, 6209, 6264
Peynado, A., 3671, 3673, 3674
Pfeifer, S., 2825
Pflug, I. J., 411
Phang, S. E., 7112
Phatak, S. C., 895, 4828
Philipp, F., 4741
Phillips, D. J., 870, 5149, 6816
Phillips, E. L., 4267, 6049
Phillips, I. D. J., 971
Phillips, J. H. H., 2818, 6451
Phillips, M. A., 105
Phillips, T. A., 5571
Philp, J., 6472
Phinney, B. O., 1649
Picciurro, G., 1704
Pichilingue Estación, Experimental Tropical, Ecuador, 4237
Pickard, J. A., 765
Pičugina, Z. G., 3148
Pielou, D. P., 129, 719, 720, 6413, 6463
Pieniązek, S. A., 2164
Pieri, G., 4605, 4645
Pieroh, E. A., 2858
Pierpoint, W. S., 5286
Pigati, P., 5918
Pigatti, A., 810, 4955, 5612
Piggott, C. J., 3837
Piglionica, V., 3137
Pilipenko, F. S., 3402
Pillai, M. D., 7403
Pillai, N. G., 3841
Pillay, P. P., 1544, 5792, 7148
Piltz, H., 3306
Pimentel, D., 852, 853, 4807, 4814
Pinheiro, E. D., 5647
Pinto, A. J. d'A., 5395
Pinto, M. R. G., 5657
Pinto-Ganhão, J. F., 2773
Piper, B. M., 472
Piquard, J., 4160
Piquer, G. J., 3786
Pirie, A. N., 1462
Piringer, A. A., 1156, 1687
Pirone, T. P., 3378
Pisani, P. L., 4476, 6190, 6944

Pisareva, M. G., 285
Pîslaru, C., 4372
Pistre, R., 6391
Pitman, N., 4205
Pittman, J. F., 6565
Pittman, S., 5225
Piva, V., 4476
Plachy, E., 2341
Plakida, E. K., 539
Planard, A., 1901
Planeta, F., 3121
Plantenziektenkundige Dienst, Wageningen, 88, 101, 106, 683, 722
Platonova, E. M., 6576
Platt, J., 3361
Platt, R. G., 5444
Platzer, F., 1652
Plaut, Z., 4100
Pleškov, B. P., 4103
Plessers, A. G., 3615
Plock, H., 231, 4264, 6010
Plumier, W., 6655
Poapst, P. A., 2515
Podany, J. C., 404
Poddubnaja-Arnol'di, V. A., 6913
Podešva, J., 793
Podoprigora, V. S., 559
Poenaru, I., 544, 4533
Poerink, H. J., 4738
Pogorel'skij, L. G., 2783
Pohloudek-Fabini, R., 2299, 3516
Pointer, J. P., 3410
Pokorný, M., 3587
van de Pol, P. H., 109
Polách, J., 2881, 2906, 6527
Polak, A., 4344
Polivcev, F. P., 2836
Polivka, J. B., 1252
Poljakoff-Mayber, A., 6641
Poljakov, I. M., 4134
Pollack, R. L., 4394
Pollard, A., 146
Pollard, H. N., 6341
Pollard, J. K., 1897
Pollock, B. M., 258, 6078
Pollock, J. R., 5503
Polsinelli, M., 2625
Polyák, G., 2654
Pons, J. E., 1461
Pont, W., 3473, 3808, 3809
Pontovič, V. E., 5421
Poole, R. T., 6930
Pop, I., 3105
Popa, C., 531
Popa, D., 4825
Popa, P., 4272
Pope, R., 5352, 7155
Pope, T. E., 1304
Popenoe, J., 7208
Popescu, E., 4506
Popescu, G., 2750
Popescu, S., 4535
Popilian, I., 5014
Poplavskij, K. M., 323
Popoff, A., 1614
Popov, A. L., 6275, 6276
Popov, B. A., 244
Popova, D., 6730
Populer, C., 7067
Porlingis, I. C., 4448, 4452
Portas, C. A. M., 3834
Porter, C. A., 4880, 4919
Porter, L. A., 6179
Portères, R., 7415
Portolano, N., 5534
Portsmouth, G. B., 2142
Posgay, E., 1060
Posnette, A. F., 614, 619, 4213, 4582
Pospíšilová, D., 2659
Pospíšilová, J., 2861, 3001
Possingham, J. V., 4094, 5845
Post, A., 692, 4653
Potapov, N. S., 2645
Potapov, S. P., 490
Potter, J. C., 5915
Potter, J. M. S., 4253
Potter, M. I., 6125
Poulsen, E., 4072, 4322, 6068
Pound, G. S., 2904, 5002, 5003, 7016
Poupart, D., 6640
Pouwer, A., 2468
Povilaitis, B., 3419, 5260, 5299
Povzun, I. V., 4709
Powell, D., 633, 634, 654, 665, 4607, 4612
Powell, N. T., 1371, 5323
Pozděna, J., 1118, 7169
Pradhan, S., 5016
Praloran, J. C., 1766
Prasad, A., 7133
Prasad, A. R., 2082
Prasad, R. B., 5715
Prasad, S., 1530, 1537, 1546, 1547, 5363
Prasad, S. K., 3995, 5086
Prasannakumari, T. O., 5631
Pratt, M., 7272
Pratella, G. C., 429, 659, 2538, 4613, 6155, 6161, 6169
Pratt, C., 322, 538, 4527
Pratt, H. K., 2933, 2934, 4842
Pratt, R., 5348
Preece, T. F., 2734
du Preez, D., 254, 4554
Premsekhar, S., 953
Prescott, H. W., 2998
Presoly, E., 2297
Preston, A. P., 2430, 2495, 4283, 4371
Preston, W. H., Jr., 4122
Prévot, P., 3843, 7395
Prévot, R. L., 4821
Pricǎ, D., 4291, 4302
Price, L., 4091
Pridham, T. G., 2967
Priestley, C. A., 2331
Priestley, W. G., 4778, 6519
Princ, Ja., I., 4682
Principi, M. M., 4739
Prista, L. N., 3527, 3535, 3547, 3554, 3562, 3630
Pritchard, G. G., 11
Pritchett, W. L., 1396
Procenko, E. P., 6849
Prochownik, M., 7002
Proctor, J. H., 3656
Proebsting, E. L., 4326, 4327
Proebsting, E. L., Jr., 275, 4303, 4454, 6112
Prohorova, K. P., 6432
Projser, E., 2151, 4029
Prokof'ev, A. A., 2295, 3618
Pronina, N. D., 5057
Prosvirov, A. S., 4274
Prota, R., 2864, 2865
Prota, U., 7314
Proverbs, M. D., 4695, 6431
Pruitt, W. O., 2200
Průša, V., 3591, 3592
Průšová, H., 3596
Pruthi, H. S., 710
Pruthi, J. S., 1805, 4398, 5529, 7301
Prvanov, R., 5355
Pryor, R. L., 1341, 6850
Psarev, G. M., 1459
Puddle, C., 3361
Puissant, A., 6278
Pujol, R., 5655, 7565
Pulido R., B., 7525
Purcell, A. E., 3669
Purcifull, D. E., 3018, 4940
Purewal, S. S., 1004, 6690
Puri, G. S., 3560
Pussard, R., 1559
Putman, W. L., 6451
Puttarudriah, M., 5619
Puustjärvi, V., 3195
Puzzi, D., 3890, 5492, 7376
Puzzilli, M., 7023
Py, C., 5687, 7477, 7479
Pyman, S. D., 7424
Pyriki, C., 3441

Qayyum, A., 915
Quaglia, A., 1439, 3161, 6517
Quagliotti, L., 1109, 4739
Quantz, L., 2858
Quartey-Papafio, E., 5590
Quebec, Laboratoire de Recherches, Saint-Jean, 4217
Quebec, Ministre de l'Agriculture, 5974

Quebec Pomological and Fruit Growing Society, 4224
Queensland Bureau of Sugar Experiment Stations, 3941
Queensland Department of Agriculture and Stock, 2370
Queensland Department of Agriculture and Stock, Horticulture Branch, 1784
Quesnel, V. C., 5616
Quilici, V., 7124
Quimby, H. E., 5197
Quimby, M. W., 7121
Quin, L. D., 7037
Quinitio, P. H., 7467, 7569
Qvarnström, K., 1288, 4857

R—, R. W., 5513
Raabe, R. D., 5137
Rabb, R. L., 1446
Rada, E. L., 1162
Rademacher, B., 5893
Radewald, J. D., 1888
Radha, K., 5631
Radhakrishnamurty, B., 6972
Radhakrishnan, A. N., 1565
Radičevič, N., 6256
Radley, M., 65
Radu, I. F., 4323, 4391, 4401, 4403
Raduá, P., 1414
Rădulescu, C., 4271
Rădulescu, G., 4537
Radulović, S., 4702
Raekelboom, E. L., 7108
Raffel, S., 2332
Raghavan, V., 2221, 4086
Raghuvir, N. N., 2779
Ragimov, K. B., 7091
Ragimov, M., 549
Ragimov, U. A., 6573
Raheja, P. C., 3969, 4064
Rahović, D., 6109
Raine, J., 6423
Rains, L. G., 7098
Raisinghani, K. H., 3544
Raj, H., 1615, 1623
Raja, R. P., 7502
Rajagopal, N. S., 7195
Rajagopalan, R., 7150
Rajani, V. G., 3992
Rajappa, S., 5359
Rajasekharan, N., 7406
Rajput, C. B. S., 377
Rajzman, A., 1771, 7294, 7295
Ralev, R. G., 4979
Ralph, E. H., 6050, 6516
Ram, C. S. V., 5763, 5779, 5780, 5781, 5783
Ramachandran, C. P., 3851
Ramakrishnan, V., 921
Ramakrishnayya, B. V., 1408
Ramanandan, P. L., 7396
Ramaswamy, M. N., 5400
Ramena, J., 3576
Ramínez, O. D., 3916
Ramírez, D. A., 2161
Ramji, M. V., 3391
von Ramm, C., 7057
Ramphal, —., 6530
Ramsey, G. B., 6537
Ramsey, J. C., 5094, 5095
Ramson, A., 3477, 5317
Ramsong, A. F., 1815
Ramstad, J., 4460
Ranaweera, D. J. W., 7559
Randhawa, G. S., 235, 356, 377, 1658, 1686, 1693, 2658, 4373, 4389, 4450, 5471, 5531, 5532, 5666, 5795, 7248, 7462
Randhawa, M. S., 1297
Randhawa, N. S., 3697
Randhawa, S. S., 5451, 7250
Randolph, L. F., 3296
Raney, F. C., 2678
Ranganathan, V., 7529
Rangaramu, B. N., 1805
Rangaswami, G., 5879, 7358
Rangaswami, S., 5210, 6931
Rankine, B. C., 6279
Rao, B. S., 3935
Rao, B. V. R., 1610
Rao, D. S., 1544
Rao, G. S. R. S., 7146
Rao, J. S., 3249
Rao, J. T., 3991
Rao, K. C., 5751
Rao, K. S. N., 1829, 3783
Rao, K. V. J., 1510, 1518
Rao, M. M., 1515
Rao, M. S. S., 5715
Rao, P. S., 7157
Rao, R. S. B., 503
Rao, S. B., 1544
Rao, S. I. K., 7359
Rao, T. N. R., 1496
Rao, T. R., 2044
Rao, U. N., 1476
Rao, V. G., 7564
Rao, V. N. M., 1824, 3791, 7563, 7566
Rao, Y. R. A., 3866
Raphael, R. A., 4167
Raphael, T. D., 955, 6157
Rapoport, H., 3549
Rappaport, I., 5308
Raptopoulos, Th. D., 4560, 6315
Rasmussen, C. R., 3035, 3036, 6668
Rasmussen, G. K., 1702, 3693, 3696, 5463, 7236, 7240
Rasmussen, S. E., 6159
Răsuceanu, E., 5058
Ratnam, C., 2162
Ratnam, T. C., 3846
Ratnasingham, K., 7489
Ratner, R., 27
Ratsimamanga, A. R., 4053
de Ravel d'Escalapon, G., 5169, 5990
Raven, P. H., 6840
Ravensberg, K., 1303
Rawlins, T. E., 5307
Rawsley, J., 5617
Raychaudhuri, S. P., 5343
Raymond, W. D., 1987
Rayner, R. W., 1929, 1930, 7306, 7445
Read, D. C., 849, 6543
Read, W. H., 2272
Reading, G. D., 4643
Rebandel, Z., 4375
Rebeiz, C. A., 4386, 4388
Recalde, L., 5712
de Recoules, J. P., 5332
Reckendorfer, P., 2178
Reddy, D. B., 941
Redit, W. H., 5883, 6170
Redjpagung, S. F., 5717
Redlich G. C., 5046
Redlich, W., 7555
Reece, P. C., 1712, 7251
Reed, A. D., 4041
Reed, L. B., 997
Reeher, M. M., 2998
Rees, A. R., 5675
Refatti, E., 4426, 4600
Reggiani, F., 1027
Regional Research Centre of the British Caribbean, 5566
Register, R. O., 7251
Rehbein, C. A., 3976, 3998
Rehm, S., 7152
Reich, R., 3478
Reichel, M., 343
Reid, R. D., 436
Reid, W. W., 1424, 1426
Reilly, D., 3330
Reimann-Philipp, R., 3306
Reimund, D. A., 6288
Reinecke, J., 7103
Reinhold, J., 4737, 4745, 4769
Reinken, G., 2469
Reinking, O. A., 1888, 3849
Reis, J. A., 3875
Reisch, K. W., 3214, 3216
Reitsma, J., 4338, 5741
Reitz, H. J., 3690, 7242
Rejšek, J., 2839
Rémy, P., 225, 2384, 2396, 2399, 2431, 2439
Renard, H. A., 4278
Renard, W., 5811
Renaud, M., 2494, 3703

Renaud, P., 3756
Renaud, U., 4079
Rendell, J., 2591
Renier, A., 6975, 7030
Rennison, B. D., 7441
Republic of South Africa, 2353
Resende, F., 2228, 3337
Rešetina, A. N., 6447
Retief, D. F., 1579
Reuther, G., 2619
Reuther, W., 3633
Reuveni, O., 7312
Reyes, A. A., 4927
Reyes, T. T., 1927
Reynolds, H. T., 6500, 6541
Reynolds, J. E., 2715, 6320
Reynolds, J. G., 113
Rhoades, H. L., 99, 6907
Rhodesia and Nyasaland, Federation of, Ministry of Agriculture, 2363
Rhododendron-Gesellschaft, Bremen, 3362, 6928
Ricci, A., 6093
Rich, A. E., 1124, 2981, 3150, 5030
Rich, S., 3465, 5300
Richard, J., 7005
Richards, M. C., 5030
Richards, R. R., 6157
Richards, S. J., 3641, 3682
Richardson, A., 113
Richardson, H. B., 582, 6422
Richmond, D. V., 6606
Richter, P., 3274
Richter, W., 3334
Rick, C. M., 6741
Rickert, F., 2858, 3306
Riddell, J. A., 5869
Riddolls, A. W., 6635
Rider, N. E., 3472
Riedl, W., 7174
Rieger, B., 1029
Riehl, L. A., 3716
Rieman, W., 4163
Ries, S. K., 5089
Rietsema, I., 4481
Riga, A. J., 6589
Rigby, F. L., 5416
Rijven, A. H. G. C., 3002
Riker, A. J., 6415
Riley, J. A., 5941
Riley, T. J., 2547, 6168
Rincón, D. J., 1822
Ringel, S. M., 4798
Rinne, R. W., 7156
Riollano, A., 3915
Ríos Mont, G., 3863
Ristich, S. S., 2942
Ritter, C. M., 305, 325, 6199
Riva, E. A. C., 3652
Rivals, P., 4513, 5520, 5535, 7497
Rives, M., 2621
Rivnay, E., 7269
Rivoira, G., 1099
Rizzotto, N., 2614
Rjadnova, I. M., 2450
Roach, F. A., 6127
Roark, B., 1527, 1528
Röbbelen, G., 3238, 3345
Robbins, G. E., 3368
Roberts, A. N., 3398
Roberts, E., 3326
Roberts, F. M., 3882, 5649, 7443
Roberts, F. S., 3819
Roberts, H. A., 77, 4898
Roberts, J. B., 1590, 1598, 7168
Roberts, M. F., 648
Roberts, O. C., 6130, 6201
Roberts, S., 7167
Robertson, J. S., 5680
Robertson, R. M., 3650
Robertson, R. N., 6624
Robertson, R. S., Jr., 933, 4884
Robin, J., 7352
Robinson, A. G., 967
Robinson, D. B., 849
Robinson, D. W., 497
Robinson, E. L., 2073
Robinson, F. A., 1713
Robinson, J. A., 6815
Robinson, J. B. D., 1638, 1918, 1925, 7421, 7430, 7432, 7435
Robinson, J. R., 4117
Robinson, M. B., 2257
Robinson, R. A., 6837, 6934
Robinson, R. H., 2095
Roborgh, R. H. J., 1586
Robson, J., 5480
Roburn, J., 2288
de la Rocha G., G., 2470
Rocha, J. L. V., 3859
Rochecouste, E., 3953
Rock, G. C., 747
Rodenburg, C. M., 3007, 6638
Rodney, D. R., 5462
Rodrigues, A., 2639
Rodrigues, C. J., Jr., 3885
Rodrigues Pereira, A. S., 3297
Rodriguez Diaz, F., 5493
Rodríguez, D. S., 3652
Rodriguez, J. G., 1316, 4657
Rodríguez M., R. A., 5071
Rodriguez, O., 1680, 3699, 3705, 5449
Rodriguez, R. A., 4856
Rodriquez, D. W., 5636
Roe, D., 2126
Roehrich, R., 2804
Roelofsen, B., 435
Roemer, K., 4392
Rogers, B. L., 421, 2461
Rogers, J. D., 5275
Rogers, W. S., 265, 2430, 4279, 6103
Roistacher, C. N., 1664, 5445, 5446
Rojas Mendoza, P., 7333
Rojecka, N., 5362
Rokosová, K., 1194
Rolin, P., 4390
Rolleston, F., 2053
Roll-Hansen, J., 69, 1033, 1079
Rollins, H. A., Jr., 359, 2828, 6048, 6106
Rom, R. C., 4413
Román, J., 2081, 3990
Roman, T., 6995, 7025
Romančuk, M. N., 5261
Romaško, I. S., 2617
Romero Castañedo, R., 4034
Römisch, H., 3550
Romney, E. M., 4868
Romo de Vivar, A., 3539
Romo, J., 3539
Roorda van Eysinga, J. P. N. L., 2848, 3015, 6645
Roosje, G. S., 637
Rooth, P. D., 2032
Rosa, J., 6119
Rosa, M., 5265
Rosecrans, J. A., 1549
Rosedale, D. O., 1755
Rosemaund Experimental Husbandry Farm, 176
v. Rosen, H., 6402
Rosen, W. G., 2258
Rosenberg, D. Y., 656
Rosenberg, N. J., 927, 4866
Rosenquist, E. A., 5678
Rosenthal, C., 5000
Rosewarne Experimental Horticulture Station, 177
Rosillo, M. A., 3652
Ross, A. F., 5319
Ross, H. F., 1463
Ross, N., 369
Ross, R. G., 650, 655, 2735, 6362, 6363, 6467
Rosseels, J., 3220
Rosser, J., 2056
Rossetti, V., 5443, 5647
Rossini, P., 6392
Rota, P., 709
Rotem, J., 3812
Rothamsted Experimental Station, 5975
Rothkirch, H., 1887
Rothmaler, W., 4790
Rothwell, J. B., 3144
Round, E. V., 2054
Round, K. M., 4974, 6545
Rouse, A. H., 1775
Roux, D. G., 5428, 5429
le Roux, J. C., 594, 2686

Roux, L., 5196
Rovira, A. D., 3149
Row, L. R., 1510, 1518, 1778, 7146
Rowan, K. S., 2933
Rowland, N. W., 5878
Rowlands, D. G., 130
Rowley, G. D., 1277, 1278, 6903
Roy, S. K., 1533
Royal Horticultural Society, 3300, 3308, 3361
Royston, R., 2379
Różański, J., 5253
Różycki, E., 7086
Rubber Research Institute of Ceylon, 2007
Rubber Research Institute of Malaya, 3924, 7482, 7483, 7484, 7485, 7486, 7487, 7488
Rubin, B. A., 4092
Rubin, S. S., 6065
Rückheim, B., 3342
Rudakov, O. L., 6314
Rüdel, M., 2644, 4604
Rudić, M., 2419
Rudloff, C. F., 483
von Rudloff, E., 6963
Ruehle, G. D., 1641, 1948, 7257
Ruf, L. V., 550
Ruffaldi, G. B., 346
Ruffinelli, A., 5652
Ruggieri, G., 7214
Ruhland, W., 2218
Rui, D., 1440, 5808
Ruinard, J., 1868, 1869
Ruinen, J., 2168
Ruissen, J., 438, 454, 492, 4491
Ruiz de Assin, A., 3109
Ruiz Leal, A., 3536
Rukmini, C., 7146
Rumbeke-Beitem,Westvlaamse Proeftuin, 2378
Runeckles, V. C., 5297, 7040, 7046
Runge, P., 5699
Rünger, W., 1259, 3258
Runner, M. H., 783, 6477
Rupprecht, H., 2202, 5221
Rusanov, B. G., 834
Russ, K., 2797, 6420
Russell, E. W., 4206
Russell, R. L., 2691
Russell, T. S., 383, 3293
Russo, G., 1799, 3184, 3761, 3762
Rusu, F., 4535
Ruszkowska, M., 3139
Ryan, G. F., 1727, 6037
Ryan, T. M., 1700, 7237
Rybáček, V., 3586
Rydén, K., 5345
Ryder, E. J., 4931
Rygg, T., 6542
Ryugo, K., 4395
Ryža, V. K., 4548
Rzanova, T. B., 5841

S—, G., 1681
Saanichton Experimental Farm, B.C., 178
Saba, F., 102
Sabanayagam, J. V., 7552
Sabella, J. J., 4
Saber, A. H., 5371
Sabharwal, H. S., 4904
Sabramanian, S. S., 6956
Sacantanis, K. B., 3759
Sacher, J. A., 2252, 4107
Sachl, J., 3585
Sacklin, J. A., 439
Sadamori, S., 297, 350
Sadik, S., 6529
Sadoux, F. L., 5613
Safford, L., 1269
Sagen, J. E., 2748
Saghir, A.-R., 3056
Saharanpur Fruit Research Station, 2371
Saharanpur Horticultural Research Institute, 2372
Sahasranaman, K. N., 1051, 1886
Sahi, R. D., 7505
Sahlström, H., 2536
Šahov, A. A., 5848
Šahova, G. I., 3285
Sahulka, J., 4343
Saidak, W. J., 4755, 5043
Sainsbury, G. F., 6147
St. Vincent Agricultural Department, 201, 2373, 5983
Saito, K., 5180
Saito, T., 896, 897, 2922, 6522
Sáiz del Río, J. F., 1917
Sajnani, B. T., 1403
Sajtburhanov, Š. R., 3059
Sakai, A., 2169
Sakai, K. I., 1874, 1875
Sakai, S., 5765
Sakamoto, T., 5461
Sakimura, K., 1121
Säkö, J., 280
Sala-Escolies, E., 4558
Salas, L. A., 1932
Salazar T., J., 7271
Salerno, M., 1797
Salgues, R., 5386
Salibe, A. A., 1722, 3652, 5443
Salimei, F. S., 1261
Salkin, R., 3551
Salokangas, K., 1077, 4991, 6695
Salonen, M., 1037
Salter, P. J., 2890, 4753, 6613
Salvioli, R. A. L., 4440
Šály, A., 3600
Šamaev, G. P., 509
Samatta, Y., 3241
Sambamurthy, K., 5210, 6931
Samish, R. M., 3752, 7322
Samish, Z., 3752
Sammet, L. L., 4410
Samoggia, V., 6785
Sampath, V., 1257, 3200
Samson, J. A., 1650
Samson, R. W., 3176
Samuel, D. M., 1625
Samuels, G., 5686, 7011
Sanborn, R. R., 342, 370, 4696, 6439
Sanders, H. G., 4149
Sanderson, R. B., 2203
Sandison, S., 3925
Săndulescu, R., 6985
Sandvad, K., 6068
Sanford, K. H., 603, 6412
Sänger, R., 2172
Šan'gina, Z. I., 1104
Sanjeevi, P. S., 3984
Sankaran, A. N., 5529
Sanna, E. M., 4848
Sano, Y., 3277, 5162, 5184
Sansavini, S., 4245, 4256, 4476
Sansing, N. G., 3134
van 't Sant, L. E., 1043, 3027, 6663
Santa María, J., 3109
Santamour, F. S., Jr., 5250
Santi, R., 7328
Santiago, A., 2166
Santiago, J. K., 1959
Santilli, V., 4886
Santos, M. P., 7405
Šapovalov, A. A., 6438
Šapovalov, S. A., 6968
Sarawak Department of Agriculture, 2374
Sarca, A., 4515
Sardi, F., 2625, 2630, 6222
Sardone, L. T., 7346
Šarenkova, H., 5060
Sargent, J. A., 5296
Sarin, P. S., 1777
Sarjas, P. de., 4821
Sarkar, A. K., 1458
Sarkar, K. P., 5495
Sarmah, K. C., 2139
Šarti, L., 5823
Sarup, P., 5016
Sas, I., 4534
Sasaki, S., 442, 802, 1003, 2898
Saskatoon Research Station, Saskatchewan, 4225
Sasser, J. N., 2860, 6957
Sasso, G., 1215
Sastry, A. S., 1404, 1408, 7007

Sastry, G. P., 1778
Sastry, M. S., 3557
Sastry, S. K., 3981
Satakopan, S., 1520
Satarova, N. A., 57
Satchuthananthavale, R. 7481
Satō, I., 842, 843
Satō, T., 1807
Satoh, D., 1526
Satoo, T., 5951
Satori, K. G., 6118
Satyanarayana, M. C., 7409
Sauer, M. R., 6398
Saunders, E. S., 1374
Saunders, G. W., 1851, 3820, 5326
Saunier, R., 2510
Saure, M., 4610, 4629, 4718, 6351
Sauret, S., 588
Sauthoff, W., 1329
Savage, D. C., 1769
Savage, Z., 3659, 7217
Săvescu, A., 4700, 4707, 4811, 4895
Savithri, V., 1607
Šavrov, A. L., 3383
Sawada, E., 2866
Sax, H. J., 6681
Sax, K., 6681
Scannell, S., 1501
Scaramella Petri, P., 4847
Scaramuzzi, F., 2410, 4251, 4739
Scarborough, E. N., 5826
Ščerbakov, V. V., 4694
Schaer, E., 4258
Schairer, L. A., 6842
Schalt, W., 6862
Schano, K., 3357
Scharringa, M., 4300
Scheffer, F., 2989
Scheffer, R. P., 6761
Schench, N. C., 6572
Schenk, P. K., 3294, 3295, 3311, 5165
Scheuer, P. J., 5356
Schieber, E., 1928
Schiller, W. 5930
Schiltz, P., 3423, 7073, 7074, 7075
Schindler, A. F., 1168, 1169
Schipfer, L., 1395
Schlottmann, H., 6508
Schmadlak, J., 2438
Schmid, W. E., 1422
Schmidle, A., 2692, 6383
Schmidt, B., 936
Schmidt, H., 5153
Schmidt, H. E., 6509
Schmidt, R. E., 5191
Schmidt, T., 4806, 4889
Schmitt, N., 5805
Schmitt, R. A., 7268
Schmitt, R. J., 3278
Schnathorst, W. C., 2724, 6650
Schneider, I. R., 934, 4885
Schneider, M., 4043, 5805
Schneider, R. L., 4956
Schnelle, F. A., 5805
Schoenemann, J., 1064
Schoenleber, L. G., 1611
Schofield, H. J., 3515
Scholte Ubing, D. W., 143
Scholten, G., 1167
Scholz, E. W., 3729
Schomer, H. A., 2524
Schön, W. J., 6727
Schönbeck, H., 5811, 6152
Schönberg, G., 2427, 3204
Schöniger, G., 4598
Schonnopp, —., 5805
Schossig, S., 2438
van Schouwenburg, J. C., 123
Schrader, O. L., 1039
Schrader, W., 3239, 5152
Schread, J. C., 1313, 1314, 6794
Schreader, W. R., 7323
Schreiber, L. R., 5084
Schreiner, E. J., 5250
Schreiter, J., 826
van Schreven, A. C., 423, 4428, 4429
Schrodt, W., 525, 6233
Schroeder, C. A., 3648
Schroeder, H. O., 6401
Schroeder, W. T., 966
Schroth, M. N., 2964
Schubert, B. G., 7115
Schubert, J., 5814
Schubert, O. E., 2322
Schuch, K., 2692, 2709, 4589, 4590, 6318, 6326
Schuder, D. L., 6795
Schüepp, H., 4630
Schuldt, P. H., 4128
Schultz, H. B., 526
Schulz, F., 4266, 4281
Schulz, G., 3478
Schulz, G. H., 3631
Schulz, J. T., 5130
Schumacher, R., 372, 4393
Schumann, K., 1521
Schuphan, W., 3029, 4740, 6508
Schuppe, E., 2560, 4484
Schuricht, R., 2578, 4405
Schütte, F., 6430
Schütz, F., 2907
Schvester, D., 724, 1633, 4601
Schwanitz, F., 3336, 5145
Schwarting, A. E., 3556
Schwartz, P. H., Jr., 2972
Schwartze, C. D., 439
Schwarzenbach, H., 6260
Schwemmle, B., 3345
Schwemmle, J., 3252
Schwendiman, J. L., 6053
Schwerdtfeger, G., 3532, 3534
Schwimmer, S., 1016
Schwinn, F. J., 2692, 6354
Schwope, D., 2444, 4315
Sciaroni, R. H., 5830
Sciuchetti, L. A., 1525, 3521, 5369
Scognamiglio, A., 98, 3180
Scott, A. Z., 5369
Scott, B. I. H., 5862, 5863
Scott, F. H., 5027
Scott, K. J., 2547, 2548, 6149, 6168
Scott, P., 1602, 1603
Scott, P. D., 4678
Scott, W. A., 3432
Scottish Horticultural Research Institute, 2354
Scottish Plant Breeding Station, 775
Scudder, W. T., 6906
Searle, S. A., 5121
Seay, R. T., 1101
Sebastiani, R., 6388
Sebök, L., 2440
Sedlák, J., 836
Sedov, E. N., 4377
Seelkopf, C., 5435
Šeftel', I. M., 7219
Segalla, A. L., 5707
Sehgal, S. L., 7137
Sehm, E., 3257, 5139
Sehon, A. H., 1942
Seidel, S., 2831
Seidenfaden, G., 3346
Seifert, G., 2789
Seinhorst, J. W., 95, 97, 2332
Sekhar, P. S., 3888
Sekiguchi, A., 749, 772
Sekiya, H., 5126
Sekulić, M., 6581
Selby, M. F. H., 3832, 5583
Šelestova, V. S., 2795
Selevcev, V. F., 30
Self, B. F., 4213
Self, L. S., 7094
Selhime, A. G., 5483
Sell, W. J., 4252
Selman, I. W., 5077
Seltmann, H., 7036
Semel, M., 2912
Semeniuk, P., 1169
Sen, A. C., 5670
Sen, A. K., 808
Sen, A. R., 2110
Sen, P. K., 1485
Sen, S. C., 3959, 3962, 5752, 7530
Senderov, I. K., 6425
von Sengbusch, R., 2567, 3032, 3034

Sengewald, E., 2894, 3100
Sengupta, N., 2129
Sengupta, P., 1458
Senn, T. L., 1368, 2849
Sennels, N. J., 5953
Šenšina, S. V., 6622
Sequeira, L., 5079
Serdjuk, M. A., 2826
Šerengovoj, P. Z., 2744
Serenkov, G. P., 2151, 4029
Serf, L., 2425
Serpa A., D. F., 3668, 7460
Serr, E. F., 597, 600, 6307
Servant, M., 3853, 4160
Servicio Cooperativo Interamericano de Agricultura, Quito, Ecuador, 5984
Seshadri, T. R., 1777, 5541, 7310
Šestak, Z., 5281
Seth, J. N., 3899
Sethi, A. S., 1487, 1893
Sethi, J. K., 1575, 3068
Sethu, S., 5698
Setty, L., 956
Sewell, G. W. F., 3578, 5413
Seychelles Department of Agriculture, 202
Seyffert, W., 3255, 3263, 5174
Shadbolt, C. A., 4935, 6481
Shah, C. S., 1199, 1512, 1536
Shah, H. M., 5324
Shah, S. N. A., 1946
Shah, S. R. H., 4873
Shahi, R. D., 3982
Shalla, T. A., 253, 2701
Shanks, J. B., 5207
Shanmuganathan, N., 7552
Shanmugasundaram, S., 6729
Shanmugavelu, K. G., 1331, 3425, 5879, 6955, 7358
Shanta, P., 1825, 5630, 7400, 7401
Shantz, E. M., 1897
Sharma, D. K., 4373, 7464, 7471
Sharma, H. C., 5794
Sharma, J. M., 3951
Sharma, J. N., 6614
Sharma, K. N., 7546
Sharma, M. D., 6948
Sharma, O. P., 1706
Sharma, R. L., 2658
Sharma, V. N., 1558, 5432
Sharpe, R. H., 2688, 6017
Sharples, G. C., 540, 5462
Shaulis, N. J., 538, 561, 6273
Shaw, D. E., 3805
Shaw, J. G., 1742
Shaw, L., 3490
Shaw, M. W., 1042
Shaw, P. D., 4607
Shea, K. N., 677, 4633
Shearlaw, P. W., 2029
Shedley, D. G., 2788
Sheehan, T. J., 1153, 1223, 6821
Sheffield, F. M. L., 3881
Sheldrick, R. D., 1990, 5679
Shen, J. Y., 1114
Shenefelt, R. D., 3830, 5610
Sheng, T. R., 2063
Shephardson, E. S., 6273
Shepherd, C. J., 7065
Shepherd, F. W., 1150, 3505, 4056, 4208
Sherf, A. E., 2884
Sherman, G. D., 3774
Sherry, S. P., 3626
Sherwood, R. T., 6627
Shiah, F. Y., 2048
Shibanuma, C., 126
Shield, J. A., Jr., 4116
Shifriss, O., 1608, 1609
Shigeta, T., 753, 1808
Shimokawa, M., 610
Shing, K.-C., 6244
Shipway, G. P., 3, 2316, 4736
Shiroya, M., 3456
Shoemaker, J. S., 6095, 6192
Shorey, H. H., 6500
Shorland, F. B., 957
Shorrocks, R. M., 3930, 3934, 5694, 7489
Showalter, R. K., 6566
Shukla, T. N., 3439
Shutak, V. G., 447, 6164
Siddappa, G. S., 956
Siddiqi, M. A., 7521
Siddiqui, Z. A., 2082
Sidor, S., 7008
Sidwell, A. P., 581
Siebold, R., 2298
Siegel, O., 2671
Siegel, S. M., 4098
Sierra Leone Department of Agriculture, 203
Sigwalt, B., 7449
Sihto, E., 5416
Sikka, L. C., 1364
Silber, G., 2182, 4047
Silberschmidt, K., 4865
Siller, L. R., 5610
Sillibourne, J. M., 2291, 4720
de Silva, C. A., 3928, 3940, 7481, 7492
de Silva, G. V. S., 3842
Silva, M., 7126
de Silva, M. D., 4816
Silva, R. A., 5380
de Silva, R. L., 7551
Silva-Fernandes, A. M., 2291
da Silva Rosa, A. L., 6212
Silver, C. N., 1211
Sil'vestrov, A. D., 2746
Silvy, A., 7475
Sim, G. A., 3555
Simanton, W. A., 5482, 7265
Simão, S., 5052, 5338, 5339
Simmonds, N. W., 1834, 7348
Simon, I., 2600
Simoneau, G., 2636
Simonenko, V. F., 6578
Simonjan, A. A., 349
Simons, R. K., 273
Simpson, R. C., 6958
Simpson, W. G., 6319
Sims, W. L., 944
Sinclair, W. B., 3742
Singh, A., 3961, 3971
Singh, A. N., 1403
Singh, A. R., 840
Singh, B., 374
Singh, B. B., 3908
Singh, B. N., 3944
Singh, D., 1647, 1950, 3917, 3962, 7313
Singh, D. L., 1944, 5668
Singh, G., 1564
Singh, H., 2101, 5750, 6728, 7531
Singh, H. B., 4986, 6740
Singh, H. P., 3962, 7533
Singh, J. N., 5732
Singh, J. P., 377, 1693, 4450, 5470, 5471, 5793, 5794, 5795, 7250
Singh, K., 813, 6722, 7524
Singh, K. K., 1667, 1696, 3905, 5452, 7232, 7311
Singh, L. B., 1971, 2418, 3902, 3919, 3920, 4032, 4037, 4273
Singh, M., 1375, 2042, 3437, 3439, 3952, 5716, 7000
Singh, M. P., 3695
Singh, N., 1523
Singh, P. K., 5714
Singh, R., 1658
Singh, R. L., 2371, 3667
Singh, R. N., 237, 1967, 2371, 3903, 4373, 5665, 7464, 7471
Singh, R. P., 3952, 5073, 5793
Singh, R. S., 1005
Singh, S., 1667, 2952, 4959, 7311
Singh, S. M., 840, 3909, 3910, 5790
Singh, S. N., 1630, 2002, 2504, 2660, 2683, 3904, 5032, 5065
Singh, U. P., 3325
Singh, U. R., 3906, 3907
Singha, K. N., 3511
Singh-Dhaliwal, T., 3861, 7419
Singleton, V. L., 2006
Sinha, H., 4987
Sinha, R. B., 1960

Sinjuhin, A. M., 5861
Šipinov, N. A., 2852
Sirois, D., 131
Sironval, C., 436, 4341, 4365, 6122
Sirotenko, A. A., 5292
Širšova, A. L., 6793
Sisson, R. L., 6443
Sítař, J., 2883
Sites, J. W., 264, 1683, 6077, 7241
Sitnikova, O. A., 4120
Sitterly, W. R., 805
Skácilíková, J., 1551
Skerrett, E. J., 4155, 5916
Skiba, A. I., 6253
Skiba, T., 3498
Skiendzielewski, J., 7099
Skierkowski, J., 4745
Skinner, C. G., 4933
Skinner, J. C., 2039, 3946
Skinner, S. O., 3979
Skoog, F., 5296
Skotland, C. B., 979, 2721
Skupińska, J., 6616
Slack, D. A., 4643
Slade, M. A., 410
Slastihin, V. V., 563
Slater, C. A., 3744
Slater, C. H. W., 4213
Slatyer, R. O., 3142
Slavekoorde, S. M., 6920
Slavvo, A. V., 576
Sławiński, A., 7079, 7081
Sleesman, J. P., 2970, 4896
Sleeth, B., 3076
Slife, R. W., 5888
Slobbe, A., 2926
van Slogteren, D. H. M., 6827, 6828
Slootweg, A. F. G., 3273, 3311, 6878
Slotboom, H. J., 4336
Sly, J. M. A., 1988, 1990
Smale, B. C., 938, 2967, 3125
Šmal'ko, V. F., 5905
Small, C. V. J., 3788
Small, H. G., Jr., 1453, 5328, 7095
Smalley, R. R., 6889
Smart, N. A., 2287
Smeets, L., 436
Šmerda, V., 3116
Smiley, J. H., 1439
Smillie, R. M., 960
Smith, A. G., 2282, 2800
Smith, A. H., 6703
Smith, A. M., 6203
Smith, A. N., 2154, 4018, 5775
Smith, B. D., 704, 705, 6409
Smith, C. B., 304, 2472
Smith, C. N., 6787
Smith, C. R., 448
Smith, D., 5887
Smith, D. H., 4106
Smith, D. M., 1578
Smith, D. R., 3300, 3303, 4176
Smith, D. W., 4474
Smith, E. F., 6766
Smith, E. H., 2805, 6408, 6446
Smith, E. S., 4436
Smith, F., 7164
Smith, F. F., 1157, 2281, 6847
Smith, F. G., 1279
Smith, H. C., 5320, 6540
Smith, J. L., 6674
Smith, K. M., 107, 4209
Smith, M. A., 6537
Smith, N. A., 3012, 5192
Smith, N. G., 4279
Smith, P. F., 1688, 1702, 3693, 3696, 5463, 7236, 7240
Smith, P. G., 5005
Smith, P. R., 3020
Smith, R., 2570
Smith, R. F., 2334
Smith, R. J., 1758
Smith, R. L., 1095, 2307
Smith, R. W., 5589
Smith, T. H., 5934
Smith, W. A., 3488
Smith, W. G., 5826
Smith, W. H., 6127
Smith, W. L., Jr., 4439, 6170, 6171
Smith, W. P. C., 2961
Smitinand, T., 3346
Smock, R. M., 378, 4421, 4685, 6158, 6163, 6165
Smoot, J. J., 5498
Smyk, B., 7086
Šnajdár, J., 3607
Snodgrass, J. R., 3078
Snoeck, J., 1903
Snyder, J. C., 6205
Snyder, M. J., 2889
Snyder, W. C., 2964, 4751, 6713
Sobti, S. N., 6831
Società Orticola Italiana, 3191
Soczek, Z., 448
Soffe, R., 4196
Söhner, F., 6637
Sohonie, K., 948, 4765, 4879, 4902,
Sokolov, A. M., 644
Soldatenko, S. V., 41
Soldatova, R. Ju., 545
Soliven, F. A., 7569
Soljanik, G. M., 2457
Solopov, G. P., 221
Solov'ev, A. K., 883
Solt, M. L., 1413, 3451
Soma, K., 1214
Soman, R., 5792
Somasundaram, A., 7501, 7528
Somers, E., 2272, 6606
Sommer, N. F., 5836, 5865
Somos, A., 2195, 2847, 4038, 5054
Sondern, J. A., 5045
Sondheimer, E., 6319, 6707
Soni, B. V., 3983
Soni, S. C., 3961
Sonnenfeld, M., 5110
Soong, P., 2047
Soost, R. K., 1660, 1662, 1663, 1711
Soper, Q. F., 5042, 5189
Sørensen, H., 2308
Sorensen, H. B., 3658
Sorensen, H. G., 2052, 2062
Sorge, P., 2561, 4479
Soria V., J., 5598
Sorteberg, A., 1036
Šoškić, A., 227
Souliotis, M. C., 3763
Soultanopoulos, C. D., 1801
Soundrapandian, G., 3249
Sousa, A. F., 3535, 3562
South African Sugar Association, 2037
South African Sugar Journal, 5700
South Australia, Botanic Garden, Adelaide, 1151, 5109
South Australia, Minister of Agriculture, 5976
Southwick, F. W., 299, 365, 391, 6107, 6144
Southwick, R. A., 3492
Souty, J., 2387
de Souza, H. B., 2070
Špaldon, E., 361, 1054, 1055, 1056, 1477, 1573, 5344
Sparkes, E. D., 4195
Sparrow, A. H., 5302, 6842
Sparrow, R. C., 6842
Spearing, J. E., 7177
Spek, J. C., 2533
Speleers, A., 5412
Spence, J. A., 1863, 5602
Spencer, D., 4094, 5845
Spencer, D. M., 2272, 5901
Spencer, H., 5483
Spencer, M., 5096
Spender, B., 2880, 2930, 2950, 3025, 3103, 6759
Spennemann, F., 1361
Speroni, H. A., 3652
Spiegel, P., 7322
Spies, J. R., 1612, 7191
Špilenja, S. E., 7129
Spina, P., 2681, 3738, 6302
Spinei, N., 4784
Spingler, H., 5377
Spink, W. T., 1254
Spire, D., 6664

Splinter, W. E., 1373, 7021, 7022
Spoelstra, P. A., 5942
Spoor, P. A., 2397
Spragg, S. P., 6625
Sprague, R., 645, 2411, 2725, 6358
Springer, A., 6914
Springer, E., 3367, 5176, 6959
Spurling, M. B., 2380, 3683, 4731, 5457
Spurlock, A. H., 1757, 7297
Spuy, J. E., 4975
Spyropoulos, G. S., 3764
Squillaci, A., 2681, 6267
Sreenivas, L., 5044
Sreenivasan, M. S., 3884
Sreenivasaya, M., 3568
Srimathi, R. A., 3568
Srinivasan, K. V., 3988, 5740, 7523
Srinivasan, M., 1625, 2162
Srinivasan, P. M., 1062, 1136, 2954, 2955, 3050, 5015, 5087
Srinivasan, V. R., 5753
Sriram, T. A., 1635
Srivastava, D. N., 1285
Srivastava, D. N., 1285
Srivastava, M. M. P., 3969
Srivastava, R. P., 1814, 1957, 5660, 5662
Srivastava, S. K., 46, 5231
van Staalduine, D., 2868
Staba, E. J., 7130
Stace-Smith, R., 6332
Stadornov, O. I., 2401
Stadtherr, R. J., 1180
Staes, J., 5350
Stafford, E. M., 734
Stafford, H. A., 5138
Stahmann, M. A., 6774
Stahn, B., 3395
Staïkov, V. M., 5217
Stajkov, G., 3422
Stalder, L., 2907, 3061, 5178
Stall, R. E., 1128, 3107, 6772
Stamato, W., 5492
Stambaugh, S. U., 7472
Štambera, J., 876, 891, 2838, 2915, 2917, 3008, 4745, 5938, 6691
Stamper, E. R., 5720, 7511, 7512
Stan, P., 4512
Stan, S., 5064
Stancevic, A. S., 251
Staněk, M., 2918, 6884
Stanhill, G., 4753
Staňková-Opočenská, E., 6884
Stanley, R. G., 2257
Stannek, G., 2873, 4758, 6679
Stanojević, S., 5806
Stanton, D. J., 3135, 3588
Stanton, T. H., 2740
Stanton, W. R., 3120
Starec, V. A., 6427
Starožilova, O. N., 226
Starr, M. P., 2332
Starý, F., 3525
Starý, R., 1569
Starzyk, M. J., 4153, 5914
Statens Forsøgsvirksomhed i Plantekultur, 1235, 1236, 3229, 4324, 4572, 6035, 6061, 6684
Staub, A., 6433, 6459
Staudt, G., 2558
Stauning, A., 2314
Stedman, A. H., 7177
Stedman, R. L., 5294
Steed, J. N., 2506
Steelink, C., 7122
Štefan, L., 5158
Stefan, N., 4538
Steffen, L., 3306, 5160
Steib, R. J., 3987, 5739
Steier, [M.], 2568
Stein, H. J., 5295
Stein, J., 2318
Stein, W., 743, 744
Steinberger, J., 6555, 6653,
Steindl, D. R. L., 5737
Steiner, A. A., 2216, 3276
Steiner, H., 602
Steiner, L. F., 1741
Steinhaus, E. A., 2334
Steinhauser, H., 3580
Stell, G., 3710
Stelzer, M. J., 5610
Stembridge, G. E., 380
Stene, J., 878
Stenlid, G., 4082
Stenmark, A., 4133
Stepanenko, S. D., 6262
Stephen, R. C., 5312
Stephens, R. J., 6204
Stephens, S. E., 3767
Stephens, T. S., 3004
Stephenson, J. W., 4147
Stephenson, W. A., 28
Stepka, W., 3452
Šterental', M. I., 2834
Stermitz, F. R., 3549
Stern, K. R., 6833
Stern, V. M., 2334
v. Stetten-München, K., 3597
Stevens, H., 1612
Stevens, M. A., 5293
Stevens, R., 7168
Stevens, V. L., 6619
Stevenson, A. B., 4658
Stevenson, C. D., 2549, 4420, 4434, 5503
Steward, F. C., 1897
Stewart, D. K. R., 693, 6467
Stewart, E. C. M., 4056
Stewart, F. B., 1348
Stewart, I., 1709, 3694, 7238, 7239
Stewart, J. A., 624
Stewart, J. K., 4773, 4843
Stewart, N. W., 1349
Stewart, R. N., 1169, 1341, 3359
de Stigter, H. C. M., 4838
Stiles, W. C., 300, 325, 378
Still, G. W., 606
Stinson, R. F., 1161, 3371
Stobwasser, H., 2858, 3022
Stockbridge House Experimental Horticulture Station, 179
Stocker, H. R., 3608, 3609
Stocking, C. R., 5285, 5844
Stoddard, E. M., 3329, 3486, 6384
Stoev, K. D., 6207, 6242
Stoffert, G., 2196, 2197, 3394, 6807
Stojanov, N. S., 5354
Stojkov, G., 3428
Stojuškin, I. A., 6249
Stokes, D. R., 583, 2527
Stokes, G. W., 1430
Stokes, I. E., 2073
Stoll, K., 4406, 6148
Stolle, G., 2190
Stollsteimer, J. F., 4410
Stolp, D. W., 2164, 4038
Stolz, W., 6717
Stolzy, L. H., 3686, 4099
Stombler, V., 1137
Stone, D. E., 6300
Stone, L. E. W., 3182
Stone, O. M., 6570
Storey, I. F., 4951
Storey, W. B., 3749
Storkan, R. C., 2748
Storoženko, E. M., 6386
Story, C. G., 2086
Stott, K. G., 1632, 4208
Stotzky, G., 1843, 3792, 7362
Stout, N. B., 5838
Stoutemyer, V. T., 1330
Stover, R. H., 7364
Strackenbrock, K.-H., 2514
Stranges De Fazio, M. L., 5249
Stránská, K., 4775
Străulea, M., 4381
Strauss, E., 434, 2492, 2597
Street, F., 3361
Strepkov, S. M., 815
Stretch, A. W., 2609, 4437
Streu, H. T., 1170, 1171
Strich-Harari, D., 2757
van der Stricht, H., 5214
Strider, D. L., 2945
Strigoli, P., 32, 4847

Strijdom, B. W., 93
Strobel, G. A., 6344
Strømme, E., 6748
Strong, F. M., 6536
Stroube, E. W., 6898
Stroyan, H. L. G., 1739
Struble, F. B., 640
Struchtemeyer, R. A., 1269
Stryckers, J., 2264
Strydom, D. K., 4378, 6041
Strydom, E., 6609
Strydom, J. C., 5943, 6853, 6936
Strzelec, A., 7017
Stuart, N. W., 1154, 1349, 2248, 3304
Stubbs, L. L., 5476, 6647
Stuckey, I. H., 1274, 3355
Stumpf, P. K., 7210
Sturgess, O. W., 5735, 5747, 7517
Sturm, M., 2459
Sturrock, D., 1634
Sturrock, T. T., 1972
Štys, Z., 3594
Su, N. R., 5688
Suárez de Castro, F., 1912, 1916, 3867
Subba-Rao, N. S., 3131, 3175, 5085
Subbotina, N. V., 37, 4102
Šubík, R., 6910
Subramaniam, A., 953
Subramanian, S. S., 1332, 7140
Subramanian, T. R., 7529
Sudakević, Ju. E., 2682
Sudario, E., 548
Südi, J., 58
Sugarcane Breeding Institute, Coimbatore, 3942
Sugar Manufacturers' Association, Jamaica, 5702
Suggs, C. W., 7021, 7022
Sugiyama, C., 461
Sugiyama, H., 5784
Sugiyama, T., 2888
Suit, R. F., 1731, 1732, 1733, 1734, 1735, 3718
Sukkawala, V. M., 1199, 1512,
Sukumaran, C. K., 5631
Sulaiman, M., 3509
Sulakadze, T. S., 3675
Šul'gin, I. A., 5841
Šul'gin, V. M., 335
Sullivan, D. T., 382
Sumarjono, M., 5717
Sumiki, Y., 47
Summa, A. F., 1582
Summerland Research Station, British Columbia, 180
Summers, F. M., 2782
Sun, T.-T., 4849
Sundararaj, D. D., 921, 1478
Sundararaj, J. S., 3790, 3795
Sunder, M. S., 1983
Šupica, M., 516
Suplicy, N., Jr., 2971
Surinam Department of Agriculture, 204, 4238
Suriname Landbouwproefstation, 2375
Surrey, K., 4934
Suszkowa, J., 355
Suta, A., 4350
Suter, C., 6706
Sutherland, J. P., 496, 6204
Sutiaghin, I., 5058
Suwal, P. N., 7128
Suyama, T., 315
Sváb, J., 2292
Svanidze, N. V., 1539
Švecova-Šilovskaja, K. D., 4694
Švedskaja, Z. M., 446, 2901, 4084
Svejda, F. J., 6933
Svensson, E., 2573
Šveřepová, G., 3267
Sveriges Pomologiska Förening, 4207
Svinarev, V. I., 905
Svoboda, G. H., 1553, 5390, 7149
Swain, A. P., 5294
Swaine, D. J., 4066
Swaminathan, M. S., 1363, 1873, 6969
Swamy, M. N., 1332, 6956
Swamy, N. S. R., 7142
Swanson, J., 4770
Swarbrick, J. T., 1862
Swartwout, H. G., 1286, 1287
Swaziland, Department of Land Utilization, 5985
Swiatek, L., 7120
Swift, L. J., 1776
Swinbank, J. C., 1606
Sycoev, A. M., 6225
Sykes, J. T., 4056, 5236
Sylvain, P. G., 7429
Synge, P. M., 5166
Sytenko, L. S., 6432
Szabó, L., 3548
Szalay-Marzsó, L., 7203
Szalva, P., 6719
Szczepańska, H., 7193
Szent-Ivany, J. J. H., 3831
Szilágyi, K., 4487
Szkolnik, M., 6343, 6360
Szücs, Á., 4864
Szyszko, E., 4162

Tachibana, Y., 3397
Tafro-Hadžić, A., 750
Tager, J. M., 12
Taggiasco, G., 3191
Takagishi, H., 7013
Takahashi, E., 6494
Takahashi, K., 2888, 3157
Takahashi, M., 3774
Takahashi, T., 1146, 2122, 3158, 3442, 5288
Takatori, F. H., 867
Takáts, S., 1545
Takayanagi, H., 2135, 2138
Takeshita, S., 1695, 1698
Talboys, P. W., 3599
Talejsnik, E., 2415
Tălpălaru, G., 4784
Tamai, T., 3681
Tamaki, E., 1415, 5287
Tamaki, Y., 2150
Tamamoto, K., 5287
Tamari, K., 4055
Tamás, P., 494, 2582, 2595
Tamási, J., 2485
Tamássy, I., 3835
Tamburo, S. E., 6395
Tammen, J., 3237, 3270
Tanaka, J., 1070
Tanaka, R., 1264, 1265
Tanaka, S., 1705
Tanaka, T., 3660
Tanasijević, N., 6829
Tanchico, S. S., 7183
Tandon, I. N., 3918
Taneja, A. K., 1357
Tanganyika, Coffee Research Station, Lyamungu, 7412
Tanganyika Department of Agriculture, 4239
Tanganyika Sisal Growers' Association, 1580
Tango, J. S., 7418
Tan Hong Tong, 2013, 7494
Tani, T., 3771
Taniguchi, T., 7051
Taper, C. D., 456, 2428
Tapley, R. G., 1926, 1933, 7446
Tapscott, A. R., 1450
Tarakanov, G. I., 3117
Taran, L. D., 1069
Tardieu, M., 6475
Tarjányi, F., 2195
Tarpo, E., 5157
Tărus, G., 5014
Tarutani, T., 3772
Tas, R. N., 5889
Tasnádi, J., 5013
Tatarcev, M., 1409
Tatnall, D. V., 5246, 5247
Tatura Horticultural Research Station, Victoria, 4226
Taurins, A., 7132
Tavares, S., 5796
Taveirne, W., 2315
Taylor, E. A., 700, 1290, 3375
Taylor, G. S., 3465, 3486, 4899, 5300, 5321

Taylor, H., 822, 6579, 6699
Taylor, H. D., 6565
Taylor, M. J., 6699
Taylor, O. C., 2180, 3643, 3679
Taylor, R. H., 5075
Taylorson, R. B., 1282
Taysum, D. H., 2033, 5697
Teaotia, S. S., 1943, 1957, 3897, 5662
Tea Research Institute of Ceylon, 2105
Tea Research Institute of East Africa, 2107
Tedoradze, S. G., 6593
Teeny, F., 56
Teixeira, C. G., 7454
Teixeira, G. C., 7418
Teixeira, J. B., 5353
Tejwani, K. G., 7006
Tekper, W., 1651
Telang, S. A., 2156
Tenhet, J. N., 1447
Teodorescu, D., 786, 787, 4292
Tepfer, S. S., 1326
Teranishi, R., 122
Terent'ev, S. N., 3721
Ternovskij, M. F., 3421
Terrill, T. R., 1370
Terrington Experimental Husbandry Farm, 181, 4227
Terrosi, U., 2290, 2736
Tertzakian, G., 1514
Terui, M., 641, 6349
Tesu, V., 4574
Tétényi, P., 1508, 3548
Teterev, F. K., 2420
Teubner, F. G., 5834
Teuscher, H., 3390
Tew, R. P., 2291, 4720, 4722
Thakur, M. R., 4986
Thanasoulopoulos, C. C., 1130
Thate, R., 2693
Thayer, E. F., 2160
Thayer, P. L., 3107, 4802
Theis, T., 5313
Thibault, B., 2409, 4262
Thiele, I., 4554
Thiele, K., 4540
Thimann, K. V., 3009, 4354
Thiollière, J., 647
Thirup, G., 4191
Thomas, A. S., 5212
Thomas, B. W. O., 998
Thomas, C. A., 1561, 3840, 5419, 7196
Thomas, D. G., 3873
Thomas, F. W., 7514
Thomas, G. G., 6189
Thomas, H. E., 4579
Thomas, J. L., 1336
Thomas, J. R., 2882
Thomas, K. J., 7393
Thomas, T. A., 6734, 6740
Thomas, T. L., 7132
Thomas, W. D., Jr., 6594
Thomas, W. O., 825, 6518
Thomlinson, S., 3340
Thompson, A. E., 5097
Thompson, A. H., 313, 421
Thompson, B. D., 470, 813
Thompson, F. B., 6485
Thompson, F. C., 1585, 1589, 5411
Thompson, G. D., 3975, 7507
Thompson, H. S., 1209, 1210, 1222
Thompson, J. A., 5815
Thompson, J. C., 6141
Thompson, L. S., 6649
Thompson, P. A., 450
Thompson, R. C., 4931
Thompson, W. L., 1743, 5482, 7275, 7277
Thompson, W. R., Jr., 3324
Thomson, B. F., 6621, 6622
Thomson, B. J., 364
Thomson, C. L., 4845, 4848
Thomson, J., 4915
Thullbery, H. A., 1677
Thung Tjiang Pek, 5776, 5786, 7544
Thurston, H. D., 3985, 7519
Thurston, R., 1452, 5325
Thyagarajan, B. S., 3553
Tiburcio, S. T., 820
Tichelaar, G. M., 1012
Tichý, S., 3116
Ticknor, R. L., 3398, 5116
van Tiel, N., 2286
Tiessen, H., 5012
Tietz, N., 4204
Tiittanen, K., 846, 854
Tilemans, E. M., 2284, 2286
Tilkin, V. E., 3024
Timlin, J. S., 758
Timonova, V. A., 2772
Tincknell, R. C., 3444
Tindale, G. B., 424, 432
Ting Wen Poh, 3708
Tinley, G. H., 2015, 4056
Tîrdea, A., 4511
Tîrdea, C., 4511
Tirronen, K., 144
Tiwari, M. M., 7524
Tizio, R., 4503
Tkalič, P. P., 3574
Tobin, L. W., 6492
Todd, E. H., 2076
Todd, F. A., 1434, 5264
Todd, G. W., 2181, 2243
Todd, T., 3638
Todorov, H., 4520, 6237
Tognoni, F., 238, 4296, 6038
du Toit, J. L., 3960, 7516
Tolbert, N. E., 2241, 3091
Tolbert, R. J., 5929
de Toledo, A. P., 3570
de Toledo, O. Z., 7454
Tolhurst, J. A. H., 4015, 4016, 4017
Toll Jubés, J. G., 5434
Tolley, G. S., 6966
Toma, A. K., 5424
Tomana, T., 2546
Tomasucci, G., 759
Tomaszewski, M., 4355
Tombesi, L., 7004
Tomcsányi, P., 2385, 2392
Tometorp, G., 2840
Tominić, A., 1800
Tomkins, R. G., 2526
Tomlinson, J. A., 4941, 6648
Tomlinson, W. E., Jr., 2808
Toniolo, L., 838, 4739
Tonks, N. V., 6423
Tookey, H. L., 7162
Toole, E. H., 3125
Toole, V. K., 3010
Toomey, M. G., 5459
Toorenaar, G., 211, 2499
Topor, V., 551
Topping, C., 2486
Torfason, W. E., 790
Torres, A. M., 1206, 2979
Torres, F. N., 809
Torres, J. P., 1958
Torres, S. C. A., 3923
Torres-Sepúlveda, A., 3861, 7419
Torvend, P., 2570
Toubol, V., 5527
Toul, V., 2861, 3001
Toury, J., 1817
Toussoun, T. A., 4751, 4891
Touzard, J., 4051
Towers, G. H. N., 1334, 6839
Towler, M. J., 4656
Towner, J. W., 3265
Townshend, J. L., 871
Townsley, W. W., 3106
Toy, S. J., 1279
Tranger, B., 5007
Tramier, R., 3292
Traylor, J. A., 6316
Trébuchet, G., 3007
Treece, R. E., 1158, 5226
Trefná, E., 798
Treggi, G., 3572, 5404
Tregunna, E. B., 5280
Tremazi, S. A., 7190
Tremola, E., 3184
Trentini, R., 5909
Trevett, M. F., 4123, 4475
Trevithick, W. E., 148
Trinidad Central Agricultural Research Station, Carapichaima, 5703, 7499
Trinidad and Tobago Cocoa Board, 5568

Trinio, R. T., 1398
Tripathi, R. D., 3919, 3920
Trippi, S. V., 7504
Tritton, S. M., 6142
Trocmé, S., 4320
Tropical Pesticides Research Institute, 2268
Tropical Products Institute, 205, 5219, 5351, 5397, 5401, 5504, 5505, 5506, 5518, 5620, 5635
Trouillon, M., 4569
Troutman, J. L., 7084
Trubnikov, V. F., 5336, 7097
Truscott, J. H. L., 2532
Tryon, E. H., 6917
Tsai, P., 2063
Tsao, D. P. N., 1522, 1524
Tschirch, M., 7367
Tso, T. C., 3447, 5303, 7039
Tsukamoto, Y., 3287
Tsukutani, K., 3232
Tsuzuki, K., 3459
Tsvetoukhine, V., 814
Tucakov, J., 3537
Tucker, D. M., 3740
Tuckett, J. R., 1599
Tucumán, Estación Experimental Agrícola, 4042
Tudosie, A. D., 551, 4515
Tukey, L. D., 324
Tukey, R. B., 4580
Tulajkova, K. P., 6072
Tulecke, W., 2217, 4081
Tumanov, I. I., 485
Tunis, W. D., 6436
Tupicyn, D. I., 2386
Tupý, J., 347, 1419, 1420, 4376
Turchi, A., 6733
Tureckaja, R. H., 2191
Turica, A., 733
Turković, Z., 2637, 4497
Turnbull, A. L., 2280
Turner, D., 2589
Turner, E. A., 2925
Turner, J., 6745
Turner, J. B., 4156
Turner, L. H., 4592
Turner, W. F., 6341
Turno Rotini, O., 1789
Turovcev, N. I., 257, 2414
Turovceva, A. G., 2423
Turrell, F. M., 3672, 3707, 7227
Turri, E., 4045
Turrialba, Inter-American Cacao Center, 1854, 7380
Turtle, E. E., 2272
Tuttle, D. M., 5195
Tuzson, I., 528, 529, 4550, 6280
Tweedy, B. G., 4612, 6356
Twigg, G. I., 7527
Tydeman, H. M., 245
Tyler, K. B., 6644
Tynan, J. A., 3058
Tyson, D., 5080
Tysser, H. F., 4210

Uganda Department of Agriculture, 2106, 2376
Ugolini, A., 1796, 3374
Uhlig, B., 5134, 5144
Uhring, J., 6870
Ui, T., 1040
Uitterlinden, L., 4336
Ukolova, M. D., 5872
Ul'janova, M. S., 2153
Ullah, M. R., 5787
de Ullivarri, D. F., 3485
Ullrich, W., 2237
Ulubekova, M. V., 4165
Ulubelen, A., 5376
Umaña, R., 1920, 7429, 7434
Umat, D. S., 2069
Umhauer, M., 2441, 4295
Underhill, E. W., 1522, 5374
United Planters' Association of Southern India, Tea Scientific Department, 2141, 4002, 4020, 5754, 5755, 5774
Universidade Rural do Estado de Minas Gerais, Vicosa, Brazil, 4241
Unrau, A. M., 1044, 5407, 7163
Unrau, I. C. J., 7163
Unterstenhöfer, G., 2286, 2692
Uota, M., 4181, 4553
Upshall, W. H., 2437, 2490
Urban, L., 4944
Urbaniak, A., 7086
Ure, C. R., 4492
Uribe, E. G., 4126
Uriu, K., 587, 6294
Ursulenko, P. K., 6054
Uschdraweit, H. A., 6865
U.S. Department of Agriculture, 182, 1489, 1605, 2184, 2555, 3332, 3500, 3619, 5958, 5989
U.S. Department of Agriculture, Agricultural Marketing Service, 6965
U.S. Department of Agriculture, Agricultural Research Service, 473
U.S. Department of Agriculture, Entomology Research Division, 2278
U.S. Department of Agriculture, Foreign Agricultural Service, 1655, 2035, 2104
U.S. Department of Agriculture, Statistical Reporting Service, 6289, 7216
U.S. Weather Bureau Fruit-Frost Service, 3676
Ushiyama, K., 610, 1767
Uyemoto, J. K., 4438
Uziak, Z., 7017
Uzunovski, M., 7026

Vaadia, Y., 565, 2678
Vacano, N. L., 5414
Vaccaro, J. W., 7187
Vagt, W., 4710
Vahabov, Š. Z., 7032
von Vahl, E., 2424, 4384
Vail, J. W., 1816
Vakili, N. G., 5543
Vakula, V. S., 2255
Valcarce, A. C., 6651
Valder, P. G., 1350
Valdez, R. B., 7441
Văleanu, L., 4502, 4508, 4509, 4510
Valenta, M., 824
Valentine, D. H., 6844
Valías Gómez, E., 3143
Vallance, L. G., 2098
Valleau, W. D., 5310
Valsangiácomo, F. J., 3652
Van Amburg, W., 2694
Van Assche, C., 4942
Van Assche, F., 4797
Van Blaricom, L. O., 4400
Van Cauwenberghe, E., 6194
Vance, B. F., 6868
Vancouver Research Station, B.C., 2355
Vančura, M., 3583
Van den Bulcke, M., 1600
Vandemark, J. S., 924
Van Doren, A., 307, 390, 2411, 6121
Vanetten, C. H., 2187
Van Geluwe, J. D., 6683
Vangheesdaele, G., 4482
Van Gundy, S. D., 1737
Van Heek, L. A. G., 433
Van Himme, M., 1858
Vanjušin, B. F., 2254
Vanongeval, M., 6769
Van der Veken, H., 784
Vanwezer, J., 5181
Varadarajan, R. S., 1823
Varasova, N. N., 3406
Vardanija, K. H., 1556
Vardanija, L. Ja., 1556
Vargas Hernández, D., 7296
Vargas Méndez, J., 1853
Vargas S., R., 922
Vargues, A. C., 4417
Varis, A.-L., 846, 854
Varma, B. K., 855
Varma, H. P., 5725
Varma, H. S., 2074
Varney, E. H., 4642

Vartapetjan, V. V., 6735
Váša, M., 833
Vasil, I. K., 66
Vasiljević, L. A., 4701
Vasil'kova, A. K., 2727
Vasjunina, A. D., 7044
Vassiliou, A. A., 3764
Vasudevan, V., 4404
Vašuta, J., 1573
Vaughan, E. K., 675, 6186, 6379, 6539
Vaughan, J. G., 1483, 3515
Vayssière, P., 1898
Vaz, J. T., 1939, 3871, 3878
van der Veen, R., 4175
Veenstra, M. A., 671
Veerabangsa, M. T., 3939
Vega, J., 514, 4531
Veinbrants, N., 360
Velasco, J. R., 7397
Velásquez G., D., 1148
Veldeman, R., 7072
Velev, B. I., 6479
Velez, R. M., 1643
Velich, S., 6123
Van Velsen, R. J., 3769
Vendrig, J. C., 53, 5882
Venkataraman, K., 1513, 2156
Venkataraman, T., 3993
Venkataramani, K. S., 5757, 5758, 5759, 5760, 5761, 5762, 5766, 5769, 5770, 5771, 5778, 7539, 7557
Venkataratnam, L., 4031
Vent, L., 3579
Ventura, M. M., 5789
Venugopal, S., 3784, 6442
Venugopal, V., 3784
Verberne, B. E. N., 5019
Vergani, A. R., 3652
Vergnes, A., 2652, 6263
Verkerk, K., 4745, 5036
Verlaat, J. G., 2854, 2855, 6489
Verma, R. D., 3973, 7506
Verma, S. C., 910
Vermeer, J., 1359
Vermeire, A., 5902, 6802
Verner, L. 6063
Vernik, R. S., 4562
Vernon, A. J., 1866
Vernon, J. D. R., 707, 4668, 5131
Verona, O., 4739
Verona, P. L., 4932
Verzilov, V. F., 5872
Viart, P., 1457, 1467, 7012, 7045
Vibstad, A., 878
Vickery, H. B., 1417, 7035
Vickery, L. S., 1379, 3489
Vickory, J. R., 1806
Vidano, C., 4679, 6424
Viehmeyer, G., 1174, 1195
Vieira, C., 917
Vieira, M., 5528
Viel, G., 2286
Vietnam, Crop Improvement Program, 2377
Viets, F. G., Jr., 4871
Vijayalakshmi, K., 3841, 5627, 7403
Vijayalakshmi, U., 3991
Vijzelman, H. E., 3027
Vik, J., 4443
Viksne, A., 4483
Vilardebo, A., 1848, 3720
Villemain, G., 1895, 5624, 5625
Vincent, A. E., 340, 6090
Vincent, J.-J., 1936
Vincente, M., 4865
Vincenzetti, P. G., 4296
Vines, H. M., 7289
Viney, R., 394
Virginia Agricultural Experiment Station, 4228
Virupaksha, M., 6805
Visnyovszky, Z., 5007
Visser, T., 2127, 4004, 4011, 4015, 7552
Viswanathan, P. R., 3835
Vitale, G., 5525
Vitolović, V., 331
Vitukevič, E. R., 3481
V'jugina, N. G., 3341
Vlachos, M., 2661
Vlahov, R., 1562
Vlasov, Ju. I., 2938
Vlasveld, W. P. N., 4337, 4631
Vlček, F., 844, 1088, 2845, 3013, 4992, 6480
Vlitos, A. J., 47, 2090, 3974, 3996, 5744
Vnučkova, V. A., 1067
Voderberg, K., 4745
Vodret, A., 3765
Vogel, G., 2312, 2846, 4737, 4744
Vogel, R., 7205, 7258
Vogt, A., 4405
Voiculescu, M., 1390, 1391, 7009
Voigt, G. K., 5951
Voigt, U., 3367, 6959
Voinea, M., 4998
Voisey, P. W., 2189, 2253, 4174, 5935, 6933
Vojtov, P. I., 6490
Volkov, V. Ja., 30
Volodarskij, N. I., 1616
Volodin, V. I., 1061
Vondráček, J., 2394
Vonica, I., 6369
Von Tungeln, G. R., 6565
Voronova, T. G., 2601, 6097
de Vos, N. P., 6827, 6828
Vose, H. H., 4771
Voskresenskaja, N. P., 2234
Voss, D. O., 43
Voth, V., 441, 2559, 4445, 4454, 4456, 4457
van de Vrie, M., 691
Vullin, G., 5447
Vuuren, P. J., 93

Wada, T., 1526
Waddington, P., 1087
Wade, E. K., 505
Wade, G. C., 2891
Wade, W. H., 2807
Wadenswil Horticultural Research Station, 2356
Wadey, A. D., 5571
Wadi Fara'a Agricultural Research Station, Jordan, 778
Wadley, B. N., 2716
Waggoner, P. E., 5114
Wagner, D., 4933
Wagnon, H. K., 6316
Wahhab, A., 5729
Wahi, S. P., 1537, 1546
Wain, R. L., 2272, 5078, 5870, 5901
Wainstein, P., 4541
Waite Agricultural Research Institute, 183
Wakankar, S. M., 1480
Walczak, K., 2581
Walker, B., 3957
Walker, D., 6504
Walker, D. A., 5857
Walker, D. R., 308, 4329
Walker, E. K., 1379, 3463, 3489
Walker, J., 965, 2043
Walker, J. C., 829, 2939, 3060, 3169, 4887
Walker, J. T., 1159, 1323
Walkof, C., 4973
Wall, M. E., 1502, 5360
Wallace, A., 25, 932, 1715, 5438, 5466
Wallace, A. M., 5838
Wallace, B. S. T., 5212
Wallace, E. G. R., 5083
Wallace, E. R., 5148
Wallace, J. M., 3711, 5439
Wallace, J. O., 2900
Wallace, R. W., 1387
van de Walle, E., 7442
Wallen, V. R., 2978, 4903
Wallenburg, M., 2519
Wallihan, E. F., 1708
Wallis, J. A. N., 1922, 3873, 7410
Wallis, L. W., 5212
Wallis, W. R., 1684
Walls, I. G., 4187
Walmsley, D., 5586, 5591, 5596

van der Walt, C. F. J., 2301
Walters, C. S., 5892
Walters, S. M., 5952
Walton, G. S., 2609
Walunjkar, W. G., 3438
Wandås, F., 2573
Wander, I. W., 3694, 7238, 7239, 7241
Wang, C. H., 5094, 5095
Wang, C. S., 5736
Wang, D., 2966
Wang, S.-S., 4957
Wanner, H., 1924
Ward, P. J., 430
Wardlaw, C. W., 5542
Ware, L. M., 2687
Wark, D. C., 3462
Warne, L. G. G., 832, 2871, 3070, 3072, 3082, 3092
Warneke, J. E., 3641
Warner, R. M., 735, 736, 737
Warren, D. M., 34
Warren, F. S., 2899
Warren, G. C., 6808
Warren, G. F., 902, 5055
Warren, H. V., 4046
Warren, J., 2306
Warren, L. E., 689
Warren, L. O., 4829
Warteresiewicz, M., 4768, 6514
Washington Agricultural Experiment Stations, 184
Washington State University, 2269, 2279, 2357, 2358, 2359
Wassenaar, L. M., 440
Wasserbauer, R., 2918
Wassink, E. C., 3288
Wassink, H. J. M., 6951
Wasuwat, S. L., 2939
Watanabe, A., 2112, 2113
Watanabe, R., 1425
Watanabe, S., 1214
Watanabe, T., 357, 1808
Waters, A. J., 3461
Waters, W. E., 906, 6852
Watkins, J. B., 2549
Watkins, R. W., 7102
Watson, D. J., 6532
Watson, D. L., 103
Watson, D. P., 1273, 5113
Watson, G. A., 3934, 5342, 7490
Watson, R. D., 1009, 3062
Watson, W. W., 5941
Wattle Research Institute, Pietermaritzburg, 3625
Watts, L. E., 3007
Waxman, S., 1177
Way, J. M., 2856
Way, R. D., 223
Weathers, L. G., 5475, 7223
Weaver, M. L., 4914
Weaver, R. J., 535, 536, 2649, 2650, 4523, 4524, 4526, 6245, 6246
Webb, F. W., 2801
Webb, K. L., 2208
Webber, J., 2850
Weber, D. J., 2529
Weber, F., 3357
Weber, H., 2400
Weber, J. R., 3707
Webley, D., 5913
Webster, A. B., 800, 865, 961, 2194, 6484
Webster, D. H., 82
Weckel, K. G., 2974
Weeks, L. V., 3682
Weenink, R. O., 957
Weeraratne, V., 5306
Weger, B., 2620
Wegner, L.-G., 3283, 5172, 5177
Weidemann, C., 5331
Weier, T. E., 1421, 5285
v. Weihe, K., 3364
Weihenstephan, Staatliche Lehr- und Forschungsanstalt für Gartenbau, 2360
Weil, B., 6792
Weinberger, J., 260
Weinmeister, B., 2835
Weinsberg Staatliche Lehr- und Versuchsanstalt für Wein- und Obstbau, 4494
Weinstein, L. H., 3151, 4880, 4919
Weischer, B., 1041, 2693, 2758
Weiser, C. J., 21, 269, 3365
Weiseth, G., 4746
Weiss, G. M., 2430, 2827
Weiss, R., 1342
Weissenborn, K., 4325, 4328, 4427
Welch, J. E., 4939
Welch, H. E., 2909
Wellensiek, S. J., 2230, 4087, 4088, 4089, 5173, 5850
Wellesbourne, National Vegetable Research Station, 773, 6471
Wellington, P. S., 9
Wells, D. A., 4196
Wells, J. C., 452, 3384
Wells, J. S., 3353, 5203
Welsh, M. F., 616, 620, 623, 2270, 4260
Welvaert, W., 5902
van Wely, A. J. M., 1
Wenhardt, A., 84
Wennergren, E. B., 398
Werminghausen, B., 4190, 6495
van Wesemael, J. C., 5922
West, A. S., 2784
West, C. A., 1649
West, T. F., 2277, 7177
West African Cocoa Research Institute (W.A.C.R.I.), 5567
West African Institute for Oil Palm Research (W.A.I.F.O.R.), 3913
West of Scotland Agricultural College, 185, 4229
Westenberg, M. G., 1991
Wester, R. E., 6596
Western Australia Department of Agriculture, Plant Pathology Branch, 964, 1289
Western Canadian Society for Horticulture, 4230
Westfall, B. A., 2691
Westgate, P. J., 986
Westigard, P. H., 4676
Weston, W. J., 1016
Weststeijn, G., 3848
Wetmore, R. H., 3403
Wetton, D. H. T., 5940
Weybrew, J. A., 5284, 5293, 7036
Weydahl, E., 1034
Weyl, E., 4339
Wharton, A. L., 1864, 5604, 7386, 7388
Wheatley, G. A., 6499
Wheatley, P. E., 1890
Wheeler, A. W., 4876, 5868
Wheeler, G. F. (C.), 5182, 5822
"Where to Buy" Ltd, 2335
Whitaker, G. H., 2065, 3976, 5705
Whitaker, J. R., 385
Whitaker, T. W., 911, 6552
White, D. B., 51, 4285
White, F. H., 7028
White, R. A. J., 1105, 1127
White, R. G., 2460
Whitehead, A. G., 1931
Whitehead, C. W., 3134
Whitehead, T., 3224
Whitehead, V. B., 716, 2780, 2819, 3760
Whiteside, A. G. O., 2189
Whiteside, J. O., 639
Whiting, F. L., 6481
Whitnall, A. B. M., 6405
Whitner, B. F., Jr., 898, 986
Whittaker, E. C., 4286
Whittingham, C. P., 959
Whittington, W. J., 6760
Whitty, E. B., 1374, 3427
Wiackowski, S., 4669
Widjanarko, S., 7491
Widmer, R. E., 1180
Wiebe, H. H., 3198
Wiebe, J., 3122
Wiebosch, W. A., 1025

Wiechowski, A., 3086
Wiersema, G. P., 128, 2305
Wiersum, L. K., 6747
Wierszyłłowski, J., 239, 4375
Wierzba, M., 7100
Wiese, H., 1328
Wiggans, S. C., 593
Wight, J. R., 901
Wight, W., 2111, 2116, 7537, 7542, 7549
Wightman, F., 5881
Wikle, J. S., 3396
Wilcox, G. E., 4962, 5055
Wilcox, H., 5951
Wilcox, J., 1134
Wilcox, J. C., 6059
Wilcox, M. S., 6533
Wildbolz, T., 2692, 6426, 6433
Wildon, C. E., 6939
Wiley, R. C., 380
Wilhelm, A. F., 2693, 6336
Wilhelm, S., 2559, 2748, 5523, 6713
Wilhelminadorp, Proefstation voor de Fruitteelt in de Volle Grond, 210
Wilkin, G. D., 96
Wilking, E., 6131
Wilkins, H. F., 6923
Wilkins, M. B., 34
Wilkinson, B. G., 418, 6156, 6162
Wilkinson, E. H., 6189
Wilks, J. M., 623, 624
Will, H., 3196, 6051, 6495
Willaman, J. J., 7115
Williams, A. H., 2476
Williams, C. F., 2629, 4471
Williams, D. B., 6050
Williams, D. D. F., 6584
Williams, E. B., 649, 4620
Williams, F. W., 1646
Williams, G., 78
Williams, G. G., 4874
Williams, G. R., 243
Williams, H. E., 6316
Williams, I. H., 1589, 1590, 4056
Williams, J. H., 1606
Williams, J. J. W., 856
Williams, J. L., Jr., 4624
Williams, K., 116, 720, 771, 6463
Williams, L., 7182
Williams, M. W., 2531, 2550
Williams, P. H., 5002, 5003
Williams, R. R., 214, 348
Willis, E. R., 1852
Willits, N. A., 927
Wills, J. M. M., 3767
Wilner, J., 267
Wilson, A. G. L., 2541
Wilson, B. J., 4898
Wilson, C. L., 1276, 6919
Wilson, C. M., 1093
Wilson, C. W., 6551, 7292
Wilson, D., 480
Wilson, E. E., 4575, 4651
Wilson, G., 2084, 2086
Wilson, G. B., 1152
Wilson, J., 15
Wilson, J. D., 690, 1323, 2913, 3179, 4760, 5001, 5234
Wilson, J. F., 3578, 5413
Wilson, K., 7264
Wilson, K. M., 6625
Wilson, L. A., 120, 1691
Wilson, P. M. W., 15
Windham, S. L., 1107, 6715
Winfield, A. L., 4779, 5349
Winkler, G., 2429
Winkler, W., 2489
Winnipeg Research Station, Manitoba, 186
Winslow, M. M., 4268, 4269
Winsor, G. W., 3136, 5049, 5092, 5093
Winstead, N. N., 2943, 2945, 3118
Winter, E. J., 4753
Wirjomidjojo, R., 1857, 5692
Wirowski, Z., 3624
Wisconsin Agricultural Experiment Station, 2361, 5977
Wise, J. O., 6141
Wiseman, B. R., 4861
Wishart, R. L., 3665, 4823
Witcher, W., 609
Withers, R. B., 1768
von Witsch, H., 2226
Witterholt, B. A., 5837
Wittmer, G., 1410, 1411, 3413, 6971, 6988
Wittwer, S. H., 894, 2250, 4070, 4763, 6557
Włodkowski, M., 6615, 6616
Wöber, O., 7096
Woermann, H., 5406
Woess, F., 5223
Wohlfeil, G., 6862
Wolf, B., 6590
Wolf, F. A., 5276
Wolfe, A., 6964
Wolfe, H. R., 2830
Wolfe, H. S., 1945
Wolfe, R. H., 6272
Wolfenbarger, D., 2970, 4896
Wolfenbarger, D. O., 1979 6501
Wolffgang, H., 912
Wolford, E. R., 439
Wolfswinkel, L. D., 4582
Wollgiehn, R., 7043
Wollman, H., 2299
Wolstenholme, B. N., 2686
Woltz, S. S., 1179, 1183, 1184
Woltz, W. G., 1400, 5275
Wolwertz, M. R., 4365, 6122
Wong Phui Weng, 7490
Wood, C. A., 208, 495, 6203
Wood, G. A. R., 5573
Wood, G. W., 476, 2588, 6195
Wood, R. K. S., 951
Woodbridge, C. G., 2697, 6071
Woodcock, D., 2272, 6458
Woodcock, K. E., 3892
Woodford, E. K., 5885
Woodham, R. C., 4516
Woodmansee, C. W., 996
Woodroof, J. G., 596, 6600
Woods, M. J., 3146, 6756
Woodville, H. C., 3313
Woodward, C. H., 1300
Woodward, W. D., 1388
Wooley, P. H., 6469
Woolliams, G. E., 6739
Worf, G. L., 6868
Workman, M., 414
Wort, D. J., 5951
Worzella, W. W., 3056
Wright, D. E., 2242, 5854
Wright, H. E., Jr., 1418
Wright, J. M., 505
Wright, W. E., 4761
Wright, W. L., 5042, 5189
Wrigley, G., 3775, 7337
Wu, J.-H., 5308
Wu, L.-C., 6761
Wu, P.-H. L., 5290
Wünsche, J., 4275
Wyatt, I. J., 3045
Wyatt-Smith, J., 5342
Wycherley, P. R., 2014
Wye College, Department of Hop Research, 1584
van Wyk, J. F., 4905
van Wyk, J. H., 3726
Wyman, D., 1272, 1324, 1340, 1351, 1352, 1353, 3351, 3352, 5228, 5229, 5235, 5241, 6947, 6954

Yabuki, K., 2313
Yagi, H., 3287
Yakuwa, T., 2866
Yamada, Y., 4965
Yamaguchi, F. T., 5830
Yamamoto, S., 1526
Yamane, G. M., 4033, 5797
Yamasaki, H., 2475
Yamasaki, K., 1112
Yamazaki, T., 306, 310, 315, 2475
Yang, C.-W., 1628
Yang, T.-T., 2097
Yankov, S. J., 384
Yarwood, C. E., 39, 2232, 4111
Yashiroda, K., 5103
Yasuda, I., 3232

Yasunobu, Y., 357, 1810
Yates, R. A., 2072
Yatsu, L. Y., 425
Yawalkar, K. S., 3969
Yeatman, J. N., 6117
Yeo, D., 7452
Yerington, A. P., 734, 736, 737
Ylagan, M. M., 1819
Yoda, S., 49
Yokoi, M., 1238
Yokomizo, T., 453
Yokoo, T., 4995
Yoshida, D., 3442, 5288
Yost, G. E., 7286
Young, H. W., 6095, 6482
Young, H. Y., 2006
Young, L. B., 1772, 3635, 5508
Young, P. A., 5081
Young, R. A., 3499, 3673
Young, R. E., 1040, 3649
Young, R. H., 3674, 5454
Young, T. W., 1641, 1977, 5669, 7309
Younger, V. B., 6892
Youngken, H. W., Jr., 1522, 1549, 5374
Youngner, V. B., 1244, 1245, 1246, 1249
van Ysselstein, M. W. H., 4117
Yu, P. K., 2517, 2563

Zabka, G. G., 4095
Zaborovskij, E. P., 3406
Zachos, D. G., 1189, 2751
Zaec, V. K., 220
Zagaja, S. W., 6076
Zahara, M., 981
Zaharia, G., 4537
Zahn, G., 4888
Zahradnik, J. W., 6144
Zair, J. H., 2131
Zajcev, O. F., 2752
Zaklama, S., 726, 740
Zakman, L. M., 3096
Zamenhoff, S., 5816
Zamfirescu, I., 3533
Zanardi, D., 1441
Zangheri, S., 1135, 4670
Zanini, E., 4739
Zankov, Z. D., 6237
Zanzibar Department of Agriculture, 5986
Zappalà, A., 2628
Zaprometov, M. N., 7561
Zattler, F., 3581, 3582, 3598, 3601
Zatykó, J., 2600, 6191
Zawadzka, B., 4164, 4578
deZeeuw, D. J., 2944, 3268, 3269, 4859
Zeevaart, J. A. D., 3251
Zeilinga, A. E., 6857
Zelinschi, N., 4831
Zelitch, E., 7034
Zemánek, J., 2987
Zenkteler, M., 3083, 6701
Zentmyer, G. A., 1639, 1640, 3644, 3645, 3749, 5440, 7211
Zerkel, R. S., 94
Ziegler, G., 1301
Ziegler, L. W., 7228
Zielinski, Q. B., 4265
Ziętara, L., 6991
Žigal'ceva, M. I., 2771
Zilai, J., 2634, 2635, 2641, 6231
Ziller, R., 3844
Ziller, W. G., 657
Zimmer, K., 3393
Zimmerman, L. H., 7187
Zimmerman, P. W., 5163
Zimmermann, G., 3766
Zimmermann, H.-G., 7186, 7192
Zink, F. W., 811, 3087
Zinov'ev, L. S., 4567
Zislavsky, W., 134
von Zitzewitz, H., 3208
Ziv, D., 3799
Žiznevskaja, G. Ja., 24
Zlinszky, G., 2463
Znamenskaja, M. K., 2768
Zocenko, L. N., 6427
Zolotovitch, G., 5216
Zolotovitch, M., 5216
van Zon, A. Q., 3276
Zörcher, Z., 6455
Zoz, E. G., 1231
Zscheile, F. P., 4178
Zsoldos, L., 2463, 5919
Zub, L., 1593, 1595, 7166
Zubeckis, E., 2553
Zubov, M. F., 6377, 6389
Zuccardi, R., 3652
Zucchini, M., 212
Zuckerman, B. M., 673, 2590
Zuev, P. I., 2642, 6314
Žukov, O. S., 4451
Žukova, P. S., 3086
Zuluaga, E. M., 4507
Zuluaga, P. A., 4507
Zuñiga M., J., 5493
Zunino, H., 2737
Žuravel', M. S., 6220
Žuravlev, N. V., 7097
Žurbickij, Z. I., 2923, 4747
Žurihin, U. K., 3126
Zvjagincev, I. V., 1382
v.d. Zwaard, P., 3240, 3366
Zweig, G., 79, 4125, 4126
Zwicky, P., 678
Zwijns, M. J., 4338
Zwintzscher, M., 6000
Zych, C. C., 4444

SUBJECT INDEX

Horticultural Abstracts Vol. XXXII

NOTE ON THE USE OF THE SUBJECT INDEX.

I have an uneasy suspicion that no normal person would read a note on the use of a Subject Index unless he found himself in one of those unlikely situations, such as the desert island beloved of radio personalities, in which there was literally nothing else to read. Still one can but hope.

In 1952 the Subject Index to *H.A.* was re-organized to conform to a pattern, or perhaps better a series of patterns, and a note on the changes and the reasons for them appeared in the volume for that year (Vol. 22). This brief note ended hopefully: "Comment would be welcomed".

Inspired by the general lack of comment during the next three years, the present writer produced a more detailed "guide" to the index at the front (pp. iii-iv) of the Cumulative Index to Vols. 21-25 (1951-55). This was written in a light-hearted vein, but generally speaking was no more successful than its more earnest predecessor in arousing comments, favourable or unfavourable.

Since this last account of the Index was published a new generation of research workers has emerged, and there is evidence that some of them may be trying to use the Subject Index on the principle of looking up the word you first think of and then finding it isn't there. It seems to be time, therefore, to repeat some of the main points that were stressed in the 1955 "guide".

Basically, the following *four categories of entry* may be found in the index:

(i) Crops—under the common names of which *all* the useful references to these crops will be found.

(ii) Subjects—these, for the most part, are restricted to items known to be of general horticultural interest.

(iii) Scientific Names—including *all* identifiable insects, fungi, etc., and those plants which have not yet advanced to the status of a crop carrying a popular, universally accepted name.

(iv) Countries—a restricted category, in that only references to reports or general papers on crops or services are included.

In the *Crops* category the majority of entries for all the major crops will be found grouped under one or other of the following sub-headings: climate, composition, diseases, flower, fruit, growing (general papers), growth, nutrition, physiology, propagation, rootstocks, seed, soil management (cover cropping, cultivation, mulching, irrigation and weed control) and varieties.

Among *Subjects* covered examples of major entries include Acaricides, Alkaloids, Antibiotics, Apparatus and instruments, Boron, Calcium, Copper, Cuttings, Economics, Essential oils, Flower, Fruit, Frost, Fumigation, Fungicides, Growth-substances and so on down to Zinc. Two points need stressing. In the first place specific chemicals, equipment, etc., are not normally indexed separately, and in most cases these will be found as sub-entries under the appropriate group headings (for example DDT under Insecticides). Secondly, although under some of these group headings all the entries that appear elsewhere under crops are repeated, under other group headings only items that appear to be of particular interest in their own right are given. Examples of the first or omnibus category are Boron and Cuttings. Examples of the second or selective category are Fungicides and the major nutrient elements Nitrogen, Phosphorus and Potassium (thus, by no means every mention of captan or nitrogen is repeated, but only those thought to be of intrinsic interest to people working on captan or on nitrogenous fertilizers).

Some of the Subject entries are open to criticism on the grounds that they contain so many numbers that only a few readers are likely to possess the stamina necessary to wade through them. Sub-division of these entries would, however, make the Index considerably longer and more expensive to produce. As it is, the search for information on subjects where two or more factors are involved can often be narrowed down by comparing the numbers in two entries simultaneously and eliminating those which do not coincide.

In conclusion, it may be said that, although minor changes aimed at improvement have been made in successive indexes, the general pattern has remained the same over the past 12 years. The Index is not yet by any means perfect—and never will be—but it answers most of the queries that come our way and, it is to be hoped, some of those which do not.

G.K.A.

Aalsmeer Res. Stat. Floric., A.R., 3190
Abacá (*Muca textilis*)—*see* Manila hemp
Abies spp., herbicide injury, 3209
Abscission—*see* Flower drop, Fruit drop, Growth-substances *and* Leaf
Abyssinia, crops, 1898
Acacia spp.—*see also* Wattle—as shade trees, 5767
Acalymma vittata, 4861
Acanthoscelides obtectus, 4895, 6602
Acanthus spp., physiology, 5846
Acaricides—*see also* Insecticides *and* Sprays—
absorption and translocation, 111
action, factors affecting, 2282
additives for, 5486, 5909, 6409
antibiotics as, 697
bis(*p*-chlorophenyl) trichloroethanol (Kelthane, etc.), 701, 2282, 2761, 2830, 3021, 3721, 3723, 4720
butylphenoxyisopropyl chloroethyl sulphite (Aramite, CES, etc.), 3376, 4721
cellulose polymers, 2283
chlorbenside, 2282
chlorfenson (ovex, Ovotran), 2282, 3400, 3724
chlorobenzilate, 3722
demeton, 2771, 3724
dimethyl dibromodichloroethyl phosphate (Dibrom), 103
diphenyl sulphone, 2282
endrin, 2769
ethion, 104, 698
fluoroacetamide, 105, 4722
fungicides as, 691, 1746, 6384
fungicides mixed with, 1284, 1743
insect pests encouraged by, 5487
lindane, 3021
malathion, 2769
methyl demeton, 2769, 5917
mite resistance to, 102, 691, 695, 700, 701, 2345, 3369, 3581, 3582, 3724, 4670, 5907 5955, 6405, 7270
mixtures, 3021, 6403
and nutrients, synergistic effect, 2763
-oil mixtures, 6399
parathion and related compounds, 3021
phenkapton and its analogues, 4720
plant growth and injury responses, 705, 3400, 4722, 5487
polybutenes, 153, 2345, 4656, 4667, 4668, 6404
pyrethrum, 5909
residues, 2830, 4671, 4720, 4721. 5917
sulphur and sulphur compounds, 2282, 6409
systemic, general, 105, 111, 2950
TEPP, 102, 3021, 6399
testing, 88
tetrachlorodiphenyl sulphone (Tedion), 700, 2282, 2761, 2830, 3721, 4655, 4720, 6400, 6401, 7558
thiodan, 6409
various and new, 101, 694, 698, 767, 1743, 2769, 2793, 2950, 6796
Acer spp.—*see also* Sugar-maple—
mulching, 5114
physiology, 3383, 4098, 4567
propagation, 3203, 4055, 5227
rootstocks, 6806
Aceria neocynodonis, 5195
Aceria tulipae, 6689
Acerola—*see Malpighia punicifolia*
Acetate metabolism in plants, 56, 6619
Acetylene, flowering induced by, 6905
Achatina fulica, 4236
Achillea millefolium, as a medicinal plant, 1507
Achillea spp., weed control, 6809
Achras sapota—*see* Sapodilla
Achyranthes aspera, 5363
Acids, organic—*see also* Amino acids, *and individual acids, and crops under* composition—
biosynthesis and metabolism, 1417, 2227, 4036, 4423, 4462, 4549, 5297, 5858, 7210
determination, 2299, 4163, 4164, 4578, 5298
diseases affect, 4919
as fungus-produced toxins, 4651
in plants, 1016, 1045, 1389, 1486, 1541, 1551, 1564, 1565, 1581, 1583, 1613-1615, 1818, 1870, 2550, 3101, 3527, 3582, 3601, 4219, 4342, 4355, 4404, 4425, 4482, 4901, 5023, 5100, 5196, 5210, 5276, 5294, 7035, 7045, 7146, 7185, 7195
pollen germination affected by, 2256
in seeds, 1419
wilting of plants prevented by, 4080
Acleris rhombana, 2802
Aconitum spp., as medicinal plants, 3522, 5358
Acrocercops cramerella, 5516
Actinidia chinensis (*sinensis*) 472, 2336
Actinomyces lavendula, 6497
Actinonema rosae—see Diplocarpon rosae
Acyrthosiphon pisum—see Macrosiphum pisi
Adelaide bot. Gdn, A.R., 1151
Aden, crops, citrus, 3656
Adenine—*see under* Growth-substances
Adiantum spp., nutrition, 3342
Adonis vernalis, 3523, 5364
Adoretus spp., on cacao, 1865
Adoxophyes orana (*reticulana*), 714
Adris lyrann, 753
Aechmea spp.—
flower bud induction by acetylene, 6905
hybrids, 3334
light responses, 3335
Aeneolamia varia saccharina, 2090, 3996, 5744, 7525
Aeolanthus gamwelliae, 205
Aerosols—*see* Fungicides *and* Insecticides *under* application
Aesculus spp., ornamental, 6947
Aesculus spp., rootstocks, 6806
Africa—
East—*see* East *and separate countries*
North—*see separate countries*
South—*see* South
West—*see* West *and separate countries*

African violet—*see* Saintpaulia
Agathis spp., composition, 1501
Agave spp.—*see also* Sisal—composition, 1625, 5360
Ageratum spp.—
varieties, 2343
weed control, 6808
as weeds, 5722
Agricultural—*see also* Horticultural—
Research Council, A.R., 5961
statistics—*see also* Trade *and* Yearbook(s)—in
Norway, 4246, 4247
Spain, 4558
the United Kingdom, 4220
the U.S.A., 5958, 5989, 6289, 6787, 7216
the U.S.S.R., 4495
Agrilus rubicola, 2779
Agrimonia eupatoria, 5365
Agriophora coricopa, 862
Agriotes spp.—*see* Wireworm
Agrobacterium tumefaciens—*see* Crown gall
Agromyza phaseoli, 940, 941
Agronomy, Advances in, Vol. 13, 150
Agropyron repens, 88, 278, 284-286, 289, 2460, 2855, 2987, 3150, 5116
Agrostis—
palustris, 1244, 6893
spp.—
control, 5116
diseases, 3327
herbicide responses, 6895
tenuis, 1244, 3321, 6892, 6893
Agrotis segetum, 3184
Agrotis ypsilon, 810
Air—
conditioning and purification—*see under* Glasshouse climate *and* Storage buildings
layering—*see Marcotting*
pollution—
apparatus for measuring, 2182, 4047, 4048
filter for glasshouses, 4049
green belts to reduce, 2176
plant composition affected by, 4046
and plant injury—*see also under* Fluorine *and* Ozone—87, 2180, 2181, 2455, 3590, 3679, 4045, 4752, 5225, 5811
relative humidity—*see* Humidity
Aircraft, application of chemicals from, 87, 671, 1742, 3938, 4494, 4652, 4728, 5956, 6376, 6421, 6468, 6469, 7512
Aircraft, bird scaring by, 6455
Ajuga spp., pests, 1159
Al Awamia, a new periodical, 4240
Albania, crops, vines, 511
Alberta Dep. Agric., A.R., 151
Albinism, induced, 5853
Albizzia—
julibrissin, 1316
moluccana, 2128
spp., pests, 1316, 2129
spp., as shade trees, 2128, 4008, 4025, 5676
Albizzia (*continued*)—
tonganyicensis, 3519, 3627, 5353
Albugo candida, 5002, 5003
Alcohol(s)—
from Jerusalem artichoke, 4768, 6514
from pineapple by-products, 7480
in umbelliferae, 3516
utilization by germinating seeds, 5858
Aldehydes, determination, 7302
Aldehydes in tobacco, 5293
Aleochara bilineata, 6543
Aleurites spp.—*see* Tung
Aleurolobus barodensis, 2093
Algae—
control on boxes, 3278
crop nutrition with hydrolized, 28
culture, large-scale, 28, 4216, 7201
Alkali—*see under* Salts *and* Soil salinity
Alkaloids—*see also* Nicotine *and certain other individual alkaloids*—
absorption by roots, 4105
biosynthesis and metabolism, 1505, 3549, 4029, 5374, 5380, 7039
contents in plants, factors affecting, 1521, 1551, 3447, 3448, 3522, 3526, 3529, 3531, 3547, 3548, 5369, 5385, 7124, 7129, 7153
determination and extraction, methods of, 1496, 1506, 1517, 1522, 1544, 1552, 3552, 5391
plant sources of—*see also* Medicinal plants *and separate species*—surveys, 5355, 5356, 7115, 7118
radioactive, 5374
storage of plants containing, 3550
in various plants, analytical data on, 205, 1511, 1513, 1517-1519, 1523, 1536, 1543, 1550, 1552, 2691, 3528-3530, 3535, 3551, 3553, 3555, 3557, 3562, 3630, 5359, 5371-5373, 5381, 5384, 5387, 5390, 5392, 5393, 7126, 7128, 7135, 7148, 7149
Alkmaar, Exp. Stat. Veg. Growing in the Open, Holland, A.R., 6473
Allantoin, chlorosis associated with, 6900
Allelopathy in higher plants, 50
Allergens, plant sources, 1942, 7191
Allium—see also Onion, *etc.*—
cepa var. *multiplicans*, 4965
fistulosum, 45
spp.—
antibiotics in, 4985
composition, 3068
inflorescence forms, 4965
Almond—
a bibliography on, 6288
breeding and selection, 613, 4575
climate—
spring frost injury and protection, 274, 4556
temperature sums, 2682
winter hardiness, 274, 6292
composition, kernel, 587, 4557, 6291
composition, leaf, 6294
diseases and disorders, 613, 4575, 4651, 6322

Almond (*continued*)—
flower bud initiation and development, 2682
flowering, time of, 4556
growth substance responses, 274
nutrition, 587, 4331, 6294
pests, 2807, 4727, 6439
physiology, 274, 4100
pollen germination, 2683
pollination, 4554, 4556
production and trade, 6289
propagation, 2681
rootstocks, 260, 6293
varieties, 4554-4557, 6292
Alnus spp., ornamental, 5228
Alocasia spp., composition, 46
Aloe spp. as medicinal plants, 5366
Alsophila aescularia, 4697
Alstonia spp., composition, 5359
Alternaria—
citri, 5477
dianthicola, 6817
longipes, 1432, 5312, 7058
mali, 4612, 6356
porri, 1041, 2377, 7160
solani, 1124, 1125, 2942, 3171, 3173, 3176
spp., unspecified, 3355, 4971, 5362, 5965, 6478
tenuis, 1210, 1727, 3176, 6989
Althaea officinalis, 1504, 2347
Althaea rosea—*see* Hollyhock
Altitude, fruit composition affected by, 5435, 6236
Aluminium—
determination, 2300, 2301
foil, horticultural uses, 158, 788, 6169
interrelationships with calcium, 3970
nutrition of plants, 4, 5778, 7397
toxicity, 4, 2374, 7397
Alurnus humeralis, 5984
Alyssum spp.—
physiology, 1190, 4098
propagation, 1190, 6803
salt tolerance, 3197
Amaranthus spp.—
composition, 46
physiology, 5874
as weeds and their control, 4967, 5041
Amaryllis—*see also* Hippeastrum—pests, 4145
Amaryllis, pollen studies, 2257
Amateur Gardening Annual, 1150
Amblypelta spp. on coconuts, 2369
Amblypelta theobromae, 3831
Ambrosia spp., pollen drift, 2253
Amelanchier alnifolia, 3385
Amelanchier spp., as ornamentals, 5229
Amino acids—*see also under* Acids, organic, *and individual acids*—
absorption and translocation, 2242, 5854
albinism induced by, 5853
biosynthesis and metabolism, 44, 1091, 1389, 1414, 1577, 2186, 3029, 3169, 4103, 4329, 4880, 5295, 5297, 5843, 5858
chloroplast movement affected by, 4083
Amino acids (*continued*)—
determination, 4765, 5517
diseases affect or affected by, 908, 1184, 2943, 3169, 4887, 4922, 4923, 5077
excretion from roots, 3175, 4641
growth inhibition by, 5853
growth substances interaction with, 4505
in mushrooms, 4957
in plants, 1038, 1148, 1183, 1414, 1418, 1540, 2009, 2338, 2943, 2944, 3029, 3068, 4103, 4343, 4765, 4777, 4879, 4880, 5202, 5287, 5789, 5798, 6291, 6962, 7378
radioactive, 2242, 4880
seed germination affected by, 4932
in seeds, 2186, 2187, 2364, 4849, 4878, 4879, 4902, 5202, 5517
thiophosphoric acid derivatives of, and their effects on plant growth, 7134
Ammonia—*see also* Nitrogen—gaseous, for disease control, 170, 6186
Ammonia, injuries to plants, 1179
Ammonium compounds in rainwater, growth substance responses affected by, 363
Amoora rohituka, 1530
Amorphophallus campanulatus, 4742
Ampelopsis quinquefolia, 20
Amphimallon majalis, 3332
Amphisphaeria dalmatica, 1799
Amphorophora rubi, 4488, 4489
Anabaena cylindrica, 7201
Anabasine, biosynthesis, 7039
Analytical methods—*see under individual chemicals and* Statistical
Anaphothrips orchidii, 1738
Anarsia lineatella, 4696, 6439
Anastrepha ludens, 1742
Anastrepha mombinpraeoptans, 5652
Androcymbium gramineum, 3524
Andromeda pests, 1313
Anemone—
air pollution, 87
corm production, 1207
corm shape, 6854
diseases, 2273
flowering time, factors affecting, 6854
flowers, cut, prolonging life of, 3202
flowers, quality, 5170
growing in various countries, 5168, 5169
growth substance responses, 177
nutrition, 777
pests, 1159, 6598
planting, spacing, 3275, 5170
research in various countries, 2348, 5967
seed production, 5170
Anethum graveolens—*see* Dill
Anethum sowa, 1473
Aneurin—*see under* Vitamin B
Angelica archangelica and its oil, 733, 2347
Angiosperms, morphology of, a book on, 147
Angola, crops, 3834
Anise—*see Pimpinella and Illicium*
Annali Accademia Nazionale di Agricoltura, Bologna, a revived periodical, 5987

Annona—
cherimola (cherimoya), 4216
muricata, 5789
spp., flower biology, 4031
spp., varieties, 2364
squamosa (custard apple), 90, 2372, 5789
Annual Booklet Ass. Grs New Var. Hops, 3578
Annual Report(s)—*see also* Reports *and* Yearbooks—
Aalsmeer Res. Stat. Floric., 3190
Adelaide bot. Gdn, 1151
agric. Res. Coun., U.K., 5961
Alberta Dep. Agric., 151
Alkmaar, Exp. Stat. Veg. Growing in the Open, Holland, 6473
Arizona agric. Exp. Stat., 5959
Arnhem, Inst. appl. biol. Res. in Nature, 160, 5966
Australia, C.S.I.R.O., 155, 156
Australia, C.S.I.R.O., Irrigation Res. Stats, 5963
Balsgård Fruit Breed. Inst., 219
Banana Bd Res. Dep., Jamaica, 3789
Basutoland Dep. Agric., 187
Bermuda Dir. Agric., 188
Birmingham Univ., 4211
Boskoop Tree and Shrub Nursery exp. Stat., 1294, 6798
British—
Columbia Dep. Agric., 152
Guiana Dir. Agric., 2362
Honduras Dep. Agric., 189
Honduras Dep. Agric., Cane Fmg Officer, 7500
Solomon Is. Prot. Dep. Agric., 190
West Indies centr. Sugar Cane Breed. Stat., Barbados, 2036
Cameroons Develop. Corp., 191, 5978
Canada Dep. Agric., 153
Canterbury agric. Coll., N.Z., 4212
Cawthron Inst., N.Z., 2339
Ceylon—*see also below*, Coconut, Rubber *and* Tea—Dir. Agric., Administ., 5979
Coconut Res. Inst., Ceylon, 7392
Coffee Res. Stat., Lyamungu, 7412
Coffee Res. Stat., Ruiru, 1906
Cornell Univ. agric. Exp. Stat., 154, 5962
Cyprus Dep. Agric., 5980
East African—
Agric. For. Res. Organ., 4231
industr. Res. Organ., 4232
Tea Res. Inst., 2107
East Malling Res. Stat., 4213
Edinburgh Sch. Agric., 2342, 5964
Efford exp. Hort. Stat., N.A.A.S., 157
European and Mediterranean Plant Prot. Organ. (E.P.P.O.), 2267
Fairfield exp. Hort. Stat., N.A.A.S., 158
Florida agric. Exp. Stats, 192
Friesdorf/Bad Godesberg, gärtn. Versuchsanst., 2343
Gembloux, Stat. Amél. Plantes fruit. maraîch., 2344
Annual Reports (*continued*)—
Georgia agric. Exp. Stats, 4214
Glasshouse Crops Res. Inst., Littlehampton, 2345
Groningen, Inst. Soil Fertility, 2346
Hawaiian Sugar Planters' Ass. Exp. Stat., 5701
Holland, Minist. Agric., hort. Res., 167
Hong Kong Dir. Agric., 4233
Hüll, Hopfenversuchsgut, 3581, 3582
la Hulpe, Stat. provinc. Rech. sci. vitic., 2615
Imp. Coll. trop. Agric., Trinidad—*see* Report, Cacao
Indian—
agric. Res. Inst., 194
Coffee Bd Res. Dep., 1904, 1905
Coun. agric. Res., 195, 2364, 5981
Inst. Sugarcane Res., Lucknow, 7498
Tea Ass., sci. Dep., Tocklai, 7534
Inst. Encouragement Rech. sci. Ind. Agric. (I.R.S.I.A.), Brussels, 2347
Inst. nat. Étude agron. Congo (I.N.É.A.C.), 196
Inst. Rech. Caoutch., Cambodge (I.R.C.C.), 2008
Inst. Rech. Caoutch., Viêtnam (I.R.C.V.), 2009, 5689
Inst. Rech. Huiles Oléag. (I.R.H.O.), Paris, 1986, 3914
Inter-Amer. Cacao Center, Turrialba, 1854, 7380
Jamaica, Minist. Agric., 4234
Jamaica, Sugar Manuf. Ass., 5702
Jersey, St. exp. Stat., Howard Davis Fm, Trinity, 777, 5967
John Innes Inst., 163, 5968
Jordan, Deir Alla Res. Stat., 4235
Kentucky agric. Exp. Stat., 164
Kenya Dep. Agric., 2365
Lee Valley exp. Hort. Stat., N.A.A.S., 776
Long Ashton agric. hort. Res. Stat., 165
Low Temp. Res. Stat., Cambridge, 4218
Luddington exp. Hort. Stat., N.A.A.S., 166, 5969
Macaulay Inst. Soil Res., 4219
Malaya Dep. Agric., 197
Massachusetts agric. Exp. Stat., 5970
Mauritius Dep. Agric., 4236
Mississippi agric. Exp. Stat., 4221
Mysore Dep. Agric., 198
N.A.A.S., exp. Hort. Stats, 169, 2348
N.A.A.S., regional Exps Hort., Great Britain, 2349
nat. Inst. agric. Bot., Cambridge, 774
nat. Vegetable Res. Stat., Wellesbourne, 773, 6471
New South Wales Dep. Agric., 170
New York St. Coll. Agric., 154, 5962
New Zealand, Dep. Agric., 171
New Zealand, D.S.I.R., 173
Nigeria, Federation, Dep. agric. Res., 2366

Annual Reports (*continued*)—
Nigeria, Northern Region, Minist. Agric., 199, 2367
North Carolina St. Coll., Sch. Agric., 4222
North of Scotland Coll. Agric., 174
Northern Ireland Minist. Agric., 5971
Northern Nut Grs' Ass., 5957
Northern Rhodesia Dep. Agric., 5982
Nottingham Univ., Sch. Agric., 175, 5972
Nyasaland Dep. Agric., 2368
Ontario agric. Coll., Guelph, 2350
Orange Free State, Dep. agric. tech. Serv., 2352
Papua and New Guinea Dep. Agric., 2369
Pea Growing Res. Organ., Yaxley, 954
Pest Infest. Res. Bd, 4223
Pflanzenschutzämter, Brunswick, 4131
Pichilingue, trop. exp. Stat., Ecuador, 4237
Plant Breeding Inst., Cambridge, 5973
Quebec Minist. Agric., 5974
Quebec pomol. Fruit Gr. Soc., 4224
Queensland Bureau Sugar Exp. Stats, 3941
Queensland Dep. Agric., 2370
Rhodesia and Nyasaland, fed. Minist. Agric., 2363
Rosewarne Exp. Hort. Stat., N.A.A.S., 177
Rothamsted exp. Stat., 5975
Rubber Res. Inst. Ceylon, 2007
Rubber Res. Inst. Malaya, 3924
Rumbeke-Beitem exp. Gdn, 2378
Saharanpur hort. Res. Inst., 2371, 2372
St. Vincent Dep. Agric., 201, 2373, 5983
Sarawak Dep. Agric., 2374
Scottish hort. Res. Inst., 2354
Scottish Plant Breed. Stat., 775
Serv. co-op. interamer. Agric., Ecuador, 5984
Seychelles Dep. Agric., 202
Sierra Leone Dep. Agric., 203
South Africa, agric. Res., 2353
South African Sugar Ass. Exp. Stat., 2037
South Australia bot. Gdn, 5109
South Australia Minist. Agric., 5976
Stockbridge House exp. Hort. Stat., N.A.A.S., 179
Sugarcane Breeding Inst., Coimbatore, 3942
Summerland Res. Stat., B.C., 180
Surinam agric. Res. Stat., 2375
Surinam Dep. Agric., 204, 4238
Swaziland Dep. Land Utiliz., 5985
Tanganyika Dep. Agric., 4239
Tanganyika Sisal Grs' Ass., and Sisal Res. Stat., Mlingano, 1580
Tatura hort. Res. Stat., Victoria, 4226
Tea—*see also above*, East African *and* Indian, *and below*, United Planters'—Res. Inst. Ceylon, 2105
Terrington exp. Husbandry Fm, N.A.A.S., 181, 4227
Tingo Maria agric. exp. Stat., Peru, 200
Trinidad, centr. agric. Res. Stat., Caroni Ltd, and Ste. Madeleine Sugar Co. Ltd, 5703, 7499
Annual Reports (*continued*)—
Trinidad and Tobago Cocoa Bd, 5568
Tropical Pesticides Res. Inst., 2268
Tropical Products Inst., London, 205
Uganda Dep. Agric., 2376
United Planters' Ass., S. India, sci. Dep., Tea Sect., 5754
United States Dep. Agric., Secretary Agric., 182
Viêtnam Crop Improvement Program, 2377
Wädenswil, eidg. Versuchsanst. Obst-, Wein- u. Gartenb., 2356
Wadi Fara'a agric. Res. Stat., Jordan, 778
Wageningen—
Centre Plant-physiol. Studies, 5960
Inst. hort. Engng, 162
Inst. Plant path. Res., 87
Inst. Storage and Processing of hort. Prod., 68
Waite agric. Res. Inst., S. Aust., 183
Washington agric. Exp. Stats, 184
Wattle Res. Inst., Pietermaritzburg, 3625
Weihenstephan, staatl. Lehr- u. Forsch-Anst. Gartenb., 2360
Weinsberg, staatl. Lehr- u. Versuchsanst. Wein- u. Obstb., 4494
Wellesbourne—*see above*, nat. Veg.
West African Cocoa Res. Inst., Tafo and Ibadan, 5567
West African Inst. Oil Palm Res., 3913
West of Scotland agric. Coll., 185, 4229
Wilhelminadorp. Exp. Stat. Fruit-growing in the Open, 210
Winnipeg Res. Stat., Manitoba, 186
Wisconsin agric. Exp. Stat., 2361, 5977
Wye College, Dep. Hop Res., 1584
Zanzibar Dep. Agric., 5986
Annual Review of Microbiology, 2332
Anoda spp., flower respiration, 2235
Anogeissus schimperi, 1581
Anomala vitis, 2696
Ant(s), harmful, and their control, 201, 716, 1935, 2084, 2085, 2089, 2819, 3783, 3910, 3923, 3941, 6452
Antestiopsis (*Antestia*) spp. on coffee—*see* Coffee pests
Anthemis nobilis—*see* Chamomile
Anthocoris spp., predacious, 754, 4724
Anthocyanin—*see* Pigments
Anthonomus cinctus, 6417
Anthurium—
composts, 1151
cultural trials, 4216
diseases, 6855
nutrition, 3190, 6904
pests, 5905, 6856
propagation, 3190
soilless culture, 3190, 3276, 6904
Antibiotics—*see also* Phytoncides—
as acaricides, 697
application in paints, 186
from bacteria, 93, 6344

Antibiotics (*continued*)—
as bactericides, 186, 1123, 1185, 2904, 3107, 3164, 3167, 3338, 3712, 4854, 5697, 6497, 6569, 6884
determination, 1123
from fungi, 6314, 6380, 6673, 6707
as fungicides, 93, 645, 938, 1286-1288, 1439, 1847, 2741, 2967, 4890, 5218, 5779, 5914, 6349, 6497, 6766, 7376
-growth substance mixtures, 4890
in or from higher plants, 89, 155, 2272, 3554, 4985, 6775, 7139
metal ions affect action of, 4888
plant uptake and translocation of, 1123, 3165, 3166, 4890
plants injured or otherwise affected by, 697, 2276, 2904, 4118, 4888
for virus control, 93
Antirrhinum—see Snapdragon
Antispila (*Holocacista*) *rivillei*, 2809
Antonina indica, 3331
Anuraphis—see Brachycaudus
Aonidiella aurantii, 5490, 7276
Apanteles harrisinae, 6441
Aphanomyces euteiches, 2994, 2996, 4922, 4923, 6627, 6628
Aphanomyces raphani, 1049
Aphelandra spp., nutrition, 5830
Aphelenchoides composticola, 6671
Aphelenchoides fragariae, 3273
Aphelenchus avenae, 3044
Aphelinus spp., as predators, 2774
Aphid(s)—*see also under scientific names and host plants*—
control—
biological, 718, 722, 2774, 2858, 2908, 4680, 4807
by growth substances and herbicides, 967
by sprays and dusts, 103, 106, 712, 717, 720-723, 914, 966, 1312, 1313, 2085, 2769, 2770, 2772, 2773, 2775, 3721, 3817, 4133, 4217, 4676, 4677, 4679, 4680, 4808, 4809, 4943, 5130, 5909
by systemic insecticides, 105, 1230, 1443, 1584, 4676, 4678, 4681, 5975, 6413, 6793
by trunk bands or paints, 719, 2772
host resistance studies, 4488, 4489
populations, estimation of, 129, 4676
populations, factors affecting, 4674, 4677
as virus vectors, 172, 933, 966, 977, 1927, 2085, 2354, 3163, 3592, 3709, 4488, 4489, 4597, 5147, 5343, 5683, 5975, 6330, 6332, 6605, 6647, 6764, 7261
Aphidius rapae, 2908
Aphis—
fabae, 2858, 4133, 4893, 5909, 6605
gossypii, 914, 1230, 4597, 5130, 5147, 6647
grossulariae, 2775
helichrysi—see Brachycaudus
idaei, 4488, 6332
pomi, 129, 718-720, 4217, 4674, 4676, 4677, 5909, 6413
rosae, 5909
Aphytis spp., parasites of scale insects, 2813, 5491, 6449
Apion godmani, 4894
Apocynaceae, medicinal plants, 7118
Apodemus sylvaticus, 4148
Apomixis in various plants, 501, 2161, 2371, 2600, 6191
Apparatus and instruments—*see also* Dusters, Irrigation equipment, Machines, Spray equipment *and* Tools, *and well-known types of apparatus under their common names*—
for aseptic plant culture, 5934
for controlled environment chambers, etc., 130, 2308, 3681, 4181, 6669
for controlling—
carbon dioxide concentration in stores, 4181
carbon dioxide supply in glasshouses, 5948, 5949
glasshouse climate, 2317-2320, 4191, 5943-5946
mist systems, 4056, 4058, 4059
photoperiods, 4826
soil temperature, 4179
for determining, measuring or recording—
air pollutants, 2182, 4047, 4048
fruit cracks, 1144
fungal spore dispersal, 2739
the kinetics of leaf removal from the stalk, 7021
leaf—
areas, 132, 133, 4183
curvature, critical radius of, 7022
wetness duration, 134, 768, 4185
light transmission through fruits, 6117
maturity and firmness in fruits and vegetables, 136, 431, 5932
meteorological conditions, 4619
moisture content of—
air, 162
air inside fruits, 135
soil, 1689, 4065, 5059
photosynthesis, 131, 2309, 4182
quality of ornamental plants, 3399
respiration rate, 4182
results on punch cards, 4186
rootstock vigour, 2428
stomatal behaviour, 33, 5936
temperature of air, 2316
transpiration, 2295, 4182
wear of turf grasses, 1246
for dispensing nutrient solutions, 2203
for dispensing pollen—*see under* Pollination, artificial
for distilling essential oils, 7152
humidifiers—*see* Humidifiers
for injecting soil—*see under* Fumigation, soil, methods; *and* Nutrition by injection into soil
for lighting, controlled, 4174
for permitting photosynthesis of radioactive substances, 2308

Apparatus and instruments (*continued*)—
rainguards for hevea tapping panel protection, 2009
for sampling nematodes, 2758
for sampling pollen, 2253
for seed dusting, 2189
for seed scarification, 6933
for separating roots from soil, 4184
for soil and pot sterilization, 2343
for soilless culture—*see under* Soilless culture
for suspending cuttings in water, 3504
for tobacco curing and fermentation—*see under* Tobacco
for trapping insects—*see* Insect traps
for tray transport, 4172
vibrators for pollination, 3159
Apple—*see also* Cider *and Malus*—
biennial bearing—*see below*, fruiting
breeding and selection—
for disease resistance, 219
general, 219, 223, 2384, 5968
juvenile phase of seedlings shortened to aid, 245
for late flowering, 2394
for regular cropping, 5999
for winter hardiness, 268, 2394, 5999
chimaeras—*see below*, mutations
climate—
autumn frost injury, 2451
disease incidence affected by, 4613
drought responses 271
fruit quality in relation to, 363, 4396
fruit scald in relation to, 428, 4433
rain and/or humidity, 4339, 4340
requirements, varietal differences in, 225, 2396
spring frost injury, 270, 271, 273, 2400, 2405, 4300
temperature responses, 323, 428, 2449
temperature sums, 4391, 4433, 6074
winter—
chilling requirements, 323, 4259, 6096
hardiness—*see also below*, rootstocks, hardiness, *and* varieties, hardiness—247, 266, 267, 2434, 4301
injury, 6044
composition—*see also below*, nutrition—
bark, 316, 4342
fruit, 68, 126, 219, 300, 309-311, 313, 352, 380-382, 420, 423, 425, 2263, 2512-2516, 2543, 2544, 4332, 4391, 4396-4399, 4422, 4423, 4425, 4428, 6114, 6115, 6122, 6166, 6309
leaf, 68, 163, 302, 303, 306, 307, 310, 311, 313, 315, 316, 323, 420, 423, 692, 2468, 2471, 2763, 4307, 4328, 4330, 4332, 4340, 4341, 4345, 4351, 4397, 4429, 4578, 4657, 5921, 6070, 6073, 6096, 6166, 6308, 6366
root, 316, 2469, 6073, 6308
seed, 14, 239
shoot or branch, 316, 2471, 4307, 4343, 4607, 6073, 6096
Apple—composition (*continued*)—
whole plant, 163, 4323, 6319
wood, 320
defoliation, artificial, 165, 248, 4348
diseases—*see also below*, sprays *and* storage—
bacterial, crown gall (*Agrobacterium tumefaciens*), 1294
bacterial, fireblight (*Erwinia amylovora*), 186, 633-635, 2726, 4607
cause uncertain, papery bark canker, 6350
control, general, 2269, 4568, 5974
fungus—
bitter rot (*Glomerella cingulata*)—*see also below*, gloeosporium—638, 639
black canker (fungus unspecified), 2730
brown rot (*Sclerotinia* spp.), 310, 641, 6348, 6349
bud rot or die-back (*Gibberella baccata*), 2731
canker or eye rot (*Nectria* spp.), 165, 4610, 4718, 6350-6353, 6458
cork rot (*Alternaria mali*), 4612, 6356
dry eye rot (*Botrytis cinerea*), 4613, 6348
flyspeck (*Leptothyrium pomi*), 6367
fruit rots (various spp.)—*see also below*, storage diseases—5990, 6152, 6348, 7293
gloeosporium, bitter, lenticel, target or bull's-eye rot and canker (*Neofabraea perennans* and *Gloeosporium* spp.)—*see also above*, bitter rot—68, 637, 2544, 4430, 4431, 6151, 6161, 6162, 6357, 6362
leaf spot or blotch (*Phyllosticta* spp.), 640, 644
mildew (*Podosphaera leucotricha*), 153, 166, 180, 227, 645-648, 2401, 2732, 2831, 4140, 4213, 4614-4617, 4625, 6358-6360, 6458
phytophthora, collar or crown rot (*Phytophthora cactorum*), 637, 643, 2692, 4611, 6354, 6355
root rots (various spp.), 607
rust (*Gymnosporangium juniperi-virginianae*), 642
scab (*Venturia inaequalis*)—
biology and ecology, 637, 650, 651, 653
control—
economic aspects, 601
by enzymes, 6365
general, 180, 637, 652-655, 2737, 2738, 2831, 2832, 4217, 4335, 4338, 4621-4627, 4714, 6360-6363, 6377, 6458, 6469
by ground treatment, 5975
by systemic fungicides, 2735-2737
host metabolites in relation to, 649, 4620, 6070, 6366
orchard management in relation to, 6365
resistance, 2400, 2401
a survey, 2734

Apple—diseases—fungus—scab (*continued*)—
warnings and spore discharge, 768, 2692, 2695, 2739, 4618, 4619, 6364
Schizophyllum commune, 4628
sooty blotch (*Gloeodes pomigena*), 6367
non-parasitic—
bark necrosis, 4342, 6033, 6071
bitter pit, 68, 155, 156, 299, 309, 310, 420-422, 2339, 2346, 2540-2543, 4425-4429, 6156-6160
chlorosis—*see also below*, nutrition, iron, etc.—168, 315, 2471
core flush, 171
fruit russeting—*see below*, fruit
internal browning, 4432
Jonathan breakdown, 423, 424, 2545
Jonathan spot, 68, 2545, 2546
scald, 68, 155, 171, 180, 299, 301, 425-429, 2547-2549, 4397, 4420, 4421, 4433, 4434, 6155, 6163-6167
storage shrivel, 6309
weather checking, 6309
resistance, factors affecting, 4612, 4620
resistance, varietal—*see below*, varieties
virus—
chlorotic leaf spot, 2708
flat limb, 2707
general, 165, 615-618, 2706, 4578, 4579, 6315, 6317
green crinkle, 2707
indicators for, 619, 620, 4583, 6320
leaf pucker, 4260
mosaic, 2707, 4576, 4583
ringspot, 2707
rubbery wood, 2710, 4582, 6319
stem pitting and necrosis, 4580
-tested mother trees, 4213
witches' broom or proliferation disease, 2709, 4581, 4583, 6318
economics—
fruit thinning, 4390
growing, 2397, 2398, 4250, 5992
harvesting, 389, 5992
packing, marketing and storage, 399, 2522, 2525, 2534, 6132
planting, 2489, 2493
flower(s)—
abnormal, 271
bud initiation and differentiation, 32, 165, 364, 692, 2466, 2469, 4343, 4375, 6074, 6096
colour, pest response to, 4705
culture of isolated, 4380
morphology, growth substances affect, 4375
numbers, fruit yield in relation to, 2496
removal, growth affected by, 6073
thinning by sprays—*see also below*, fruit—178, 361, 362, 6105, 6108
flowering of seedlings, rootstocks affect, 165, 245
flowering, temperature responses, 323
frame builders—*see below under* interstocks

Apple (*continued*)—
fruit—*see also above*, composition, *and below*, harvesting, packing *and* storage—
bud—*see above*, flower
cell—
division and development, 298, 352
separation, methods for, 119
structure, bitter pit affects, 4425
characters, seedling composition in relation to, 163
colour, factors affecting, 246, 299-301, 307, 311, 4307, 4308, 4332, 4406, 6122
cracking, 2546
cuticle and cutin, 766, 4392, 6164
damage during handling, 398, 6128-6130
drop, factors affecting, 362, 2495, 2496, 4705
drop, spraying or dusting to retard, 178, 365, 366, 368, 4380, 4393
enzyme activity, 381, 384, 425, 6348
ethylene production by, 418, 4354
firmness, factors affecting, 302, 380
flavour, 219
frost injury symptoms, 273
fumigation, 86
grading—*see below*, packing
growth rate, 324, 4391
growth substances in, 352
maturity—*see also above*, climate, temperature sums, *and below*, fruit ripening—tests, 68, 382, 390, 4391, 6120-6122
mitochondria in, 425
parthenocarpy, induced, 173, 4380
quality, factors affecting, 300, 306, 309, 378, 2433, 2469, 4341, 4396, 4398, 4714, 5990, 6102
radiation responses, 4422, 4423
respiration, 68, 382, 418, 425
ripening, 155, 156, 365, 366, 381, 418, 2507, 2536
russeting, factors other than sprays causing, 246, 4397
russeting, sprays cause—*see also below*, spray injury—763, 2542, 4337, 4626
sampling, 715
-seed relationships, 6097, 6098
set, factors affecting, 272, 2495, 2496, 2501
size, factors affecting, 309-311, 692, 2466, 2467, 2470, 4332, 4380
sweetening by saccharin sprays, 383
thinning—*see also above*, flower—359, 360, 363, 364, 2505, 2506, 2545, 4208, 4390, 6100, 6102, 6104, 6106-6109, 6137, 6157, 6363
wax secretion, 5860
yields, 166, 2435, 4347, 5991
fruiting, biennial, 2451, 4375, 6103
growing—*see also below*, research *and* varieties—in various countries, 269, 2380
growth—*see also below*, root—
branching, type of, 4341, 4360
cover crop or weed exudates affect, 289

Apple—growth (*continued*)—
crotch angles, 4358-4361
habit, 4347, 4363
interrelationships, pruning affects, 4362
phases, juvenile and mature, 245, 4276
phloem development, 321
of seedlings, epicotyl development, 2479
of seedlings, factors affecting, 2394
shoot, factors affecting, various, 211, 323, 692, 2763, 4348, 4365, 6061, 6395
sprays affect, 4615
studies, various, 2347, 4285, 4346
trunk girth, factors affecting, 2435, 5990
variability, growth habit of nursery trees in relation to, 4347
variability, rootstocks in relation to, 4346
-yield relationships, 6073
harvesting—
forecasting, 6120
methods, 388, 389, 398, 2348, 2521, 4407, 6123-6128, 6137
picking speed, factors affecting, 2519
time of, 390, 391, 423, 2546, 2549, 2553, 4406, 4428, 4432, 6120-6122, 6146
herbicide responses, 278, 282, 284-286, 4314
interstocks, 68, 643, 4254, 4285, 6036
irrigation—*see below*, soil management
leaf—*see also above*, composition *and* defoliation, *and below*, nutrition, leaf analysis—
absorption and metabolism of growth substances, 165, 367, 4352, 4353
area, fruit set affected by, 272
cation exchange capacity, 6266
cuticle, 648, 4353
fall, factors affecting, 2394, 2451, 4340, 5990
nutrient leaching, 4340
optical properties, 35
removal, axillary bud development affected by, 4348
residues, toxins from, 6308
marketing—*see also above*, economics, *and below*, packing—398, 406, 408, 6113, 6135
mulching—*see below*, soil management
mutations, 219, 224, 2403, 2404, 2406, 4261, 5990, 6000
nutrition—*see also above*, composition—
boron, 155, 156, 299, 313, 421, 6033, 6071
calcium, 299, 302, 315, 422, 2541, 2542, 4340, 4342, 4427-4429, 6157-6160
copper, 4607
foliar—*see also below*, nutrition, nitrogen—155, 156, 299, 313, 315, 316, 318, 319, 421, 422, 2541, 2542, 4334-4337, 4339, 4342, 4427, 4429, 4607, 5834, 6071, 6157-6160
fruit analysis as a guide to, 310
iron, 315, 316, 4334, 4335
leaf analysis as a guide to, 303, 4339
magnesium, 302, 315, 317, 4339, 4340, 4341, 4426, 4428, 4614
Apple—nutrition (*continued*)—
manganese, 315, 318, 319, 4335-4337, 4342, 6033, 6071
manuring, general, 302, 692, 2466, 2467, 2492, 4316, 4350, 6052, 6072, 6088, 6354
molybdenum, 4342
nitrogen—
general, 165, 297-303, 306, 309, 315, 429, 2433, 2468, 2540, 2546, 2726, 4306, 4307, 4317, 4318, 4325, 4328, 4342, 4343, 4426, 4607, 6162
pest populations affected by, 693
sprays, urea, 307, 4328, 4329, 4339
phosphorus, 297, 298, 300, 302, 2469, 2470, 2726, 4307, 4317, 4318, 4330, 5834, 6162
potassium, 157, 297-300, 302, 309-312, 317, 2468, 2513, 2726, 4307, 4317, 4328, 4332, 4340, 4428, 6162
rootstocks affect, 6033
soil micro-organisms affect, 6072
storage quality affected by, 298, 299, 301, 302, 420, 2540, 6162
zinc, 318, 319
orchard fauna, sampling for, 6410
orchard fauna, sprays affect, 6411
packing—
containers, 6130, 6133, 6134
economics, 399, 2522, 2525, 6132
grading, 2525, 4408, 6130
-house layout and equipment, 2522
methods, 400, 2523, 2525, 4409, 6132, 6133, 6148
pests—*see also below*, spray(s)—
aphids, green (*Aphis pomi*), 129, 718-720, 4674, 4677, 6413
aphids, various (*Dysaphis*, *Rhopalosiphum* and *Sappaphis* spp.)—*see also below*, woolly—180, 714, 717, 2770-2772, 4678, 4679
birds, 2823
borer (*Chrysobothris femorata*), 725
click beetle (*Ctenicera tarsalis*), 4672
codling moth (*Cydia pomonella*)—*see also* Codling moth—715, 742-744, 2400, 2695, 2770, 2794-2798, 4692-4695, 6426-6431
control, biological, 692, 693, 718, 743, 744, 4674, 4680, 4695, 6429-6433, 6448, 6449
control, general, 602, 4213, 4217, 4673, 6412, 6461, 6469
curculio (*Conotrachelus nenuphar*), 715, 4684, 4685
deer, 2827
ermine moth (*Yponomeuta* spp.), 6432, 6433
eye-spotted bud moth (*Spilonota ocellana*), 715, 741, 2799, 4674
fruit flies (unspecified)—*see also below*, maggot—2787
leaf miners (*Lyonetia* and *Nepticula* spp.), 739, 745, 4688, 6435

Apple—pests (*continued*)—
leaf rollers (several genera)—*see also below*, tortrix—715, 746, 747, 755, 4672, 4674, 6436, 6437
maggot (*Rhagoletis pomonella*), 86, 729, 730, 4683-4685
mites, red spider (*Panonychus* and other genera), 171, 691-696, 701, 742, 767, 2695, 2760, 2762-2764, 4655, 4657, 4715, 4724, 6399, 6400, 6402, 6404, 6405, 6411
mites, various, 602, 693, 2771, 2793, 4663, 4724
moths (unspecified), 738, 2792, 2793
nematodes, 687, 688, 6395
oriental fruit moth (*Cydia molesta*), 2804
sawflies (*Hoplocampa* spp.), 714, 2695, 4705
scale—
Lecanium coryli, 4672
Parlatoria sp., 758
San José (*Quadraspidiotus perniciosus*), 755, 757, 6448, 6449
sucker, (*Psylla mali*), 4724
Synanthedon myopaeformis, 4698
tortrix moths (*Tortrix*, *Acleris* and other species)—*see also above*, leaf rollers—714, 2800-2802, 4694, 6434
wasps, 761
winter moth (*Operophtera brumata*), 6433, 6459
woolly aphid (*Eriosoma lanigerum*), 104, 718, 721, 722, 2774, 4680, 6414
physiology—*see also above*, fruit *and* growth, *and below*, storage—
absorption of growth substances, 165, 367, 4352, 4353
apical dominance, 4348
ascorbic acid synthesis, 6114, 6115
electrical resistance, 2428
enzyme activity, 308, 381, 384, 425, 2507, 4329, 4334, 4351, 4607, 4620
growth substances, endogenous, 14, 54, 352, 2515, 2516, 4361
growth substances, responses—*see also above*, fruit drop—325, 367, 368, 2248, 4341, 4358-4360, 4380, 4393, 4657, 5869
nitrogen metabolism, 4323
nucleic acid metabolism, 4351
photoperiodic and other light responses, 323, 324, 2512, 6309
photosynthesis, 131, 311, 323, 325, 2469, 4332
pigment synthesis, 425
radiation responses, 219, 322
respiration—*see also above*, fruit—241, 347, 2449, 2763
temperature responses—*see above*, climate
translocation, 156, 4352, 6466, 6467
water relations—*see also below*, soil management, irrigation *and* mulching—271, 2428, 2469
planting—
dates, 336
Apple—planting (*continued*)—
economics, 2489
on old apple soils—*see below*, soil sickness
spacing, 2491, 2493, 6080
systems, 2493, 4357, 6082
pollination—
artificial, 350, 2501, 6349
by bees, 349, 6099
compatibility, 4378
fruit and seed characters affected by male parent, 346, 353, 4379, 6097, 6098
pollen—
diluents, 350
mixtures, 4377, 6097
source, seedling characters affected by, 349
sugar utilization, 347, 4376
viability, germination and tube growth, 347, 348, 362, 2256, 6096
production and trade, 406-408, 2398
products and by-products, 2553
propagation—*see also below*, rootstocks *and* seed—
by cuttings with nurse-root grafts, 4276
by cuttings, stem, 1302, 2427, 3203
by grafting and budding, 2436, 4279, 6025, 6026
by layering and stooling, 4280, 6027
nursery management, 4316
nursery trees, defoliation, 248
pruning and training—
arching or bending shoots, 338, 2498, 4364
cordons, espaliers and hedges, 2498
economics, 2489
of filler trees, 6082
fruit set affected by, 2496
Gelfandbein method, 4361
general, 2380, 6083
growth habit in relation to, 4363
growth interrelationships affected by, 4362
Kipp method, 338
methods compared, 156, 338, 339, 2378, 2495, 6105
Nagy Sándor method, 2497
of nursery trees, 6028, 6029
nutrition in relation to, 6088
pest control in relation to, 692
physiological action of, 180, 4426, 6089, 6309
prostrate forms, 337
spindle bushes, 2491-2493, 6084
of stagnant trees, 171
time of, 4341, 4365, 6090
for wide crotch angles, 4358, 4361, 6085
wound treatment, 4718
research in—
Australia, 2340, 2370, 4226, 5976
Canada, 2350, 4215
East Africa, 2363
European countries, 2336, 2344, 2346, 4494, 5969, 5971
the U.S.A., 2359, 4228, 5956, 5970
ringing, 6100

Apple (*continued*)—
root(s)—
adventitious, 2426
anatomy, 2429, 6032
growth, factors affecting, 4318, 6075, 6089
residues, 6308
respiration, 241
systems, 4349, 4350
rootstocks—*see also above*, interstocks *and* propagation, *and below*, seed—
"A" series, 2434, 4282, 6035, 6036
crab, 617
disease resistance, 244, 643, 4611
dwarfing, 240-242, 245, 2430, 2435, 4285, 6031
hardiness—*see also above*, climate—244, 266, 2434, 6031
Malling, 243, 245, 617, 618, 1338, 2343, 2427, 2430, 2433-2435, 2469, 2491, 2710, 4280-4282, 4397, 6032, 6034, 6035, 6074
Malling-Merton (MM.), 243, 244, 617, 1338, 2430, 2434, 4283, 4284, 6798
Malus spp., 165, 4280, 6030-6033
Northern Spy, 2708
own-rooted trees compared with, 245, 6032
a review, 2431
-scion relationships, 242, 246, 247, 417, 2429, 2433, 2435, 2436, 4280, 4285, 4346, 4397, 4580, 6030, 6032, 6033
seedling(s)—
apomictic, 165
raising of, 6028, 6098
varietal studies, 4281, 4282, 6034
selection, anatomical and physiological methods, 241, 2428
in various countries, 211, 240, 2390, 2391, 2393, 2430, 2432, 4254, 4274
seed—
anatomy, 239
-bed management, 278
dormancy, 4278
embryo culture, 590
embryology, 351
germination, 2394, 2545
growth substances in, 14
number, factors affecting, 362, 364, 2501
rootstock propagation from—*see above*, rootstocks, seedlings
treatment, 590, 4277, 4278
seedling mortality, genetical, 223
soil—
compaction, 287, 2457
conservation, 4349
earthworm populations, 762
management—
cover crops and grass, 289, 303, 2378, 2433, 2511, 4306-4308, 6052, 6072, 6162
cultivation, 284, 2378, 2511, 4306, 4308
fumigation, 4572
intercropping, 2459
irrigation, 294, 2380, 6060-6063, 6354
methods compared, 6050, 6051
Apple—soil—management (*continued*)—
mulching, 162, 2378, 4308, 6355
rotations, 4305
weed control, 76, 178, 278, 280, 281, 283-286, 2460, 2461, 4123, 4311, 4314, 4315, 4459, 6056-6058
micro-organisms, 6072
moisture responses—*see above*, physiology, water relations, *and* soil management, irrigation, *and below*, soil water
requirements, general, 2456, 6048
sickness, 607, 688, 2492, 2692, 4305, 4572, 6308
spray residues in, 762, 6464, 6467
variability, 4305
water-holding capacity, 291
waterlogging and flooding, 4328, 4340
water-tables, 312
soilless culture, 2215
spray(s)—*see also above*, *under* diseases, flower, fruit *and* pests—
beneficial insects affected by, 4715, 6411
concentrate, 2833
fruit quality affected by, 68, 4714
injury, 766, 2378, 2703, 2735, 4337, 4610, 4686, 4723
materials, quantities required, 6461
penetration into bark, weather affects, 6459
programmes and calendars, 2694, 6411, 6428
residues—
on foliage, 116, 720, 4720, 5916, 6463, 6467
on fruit, 68, 114, 115, 765, 2287, 2290, 2291, 2830, 4156, 4157, 4716, 4721, 6465-6467
in soil, 762, 6464, 6467
retention on leaf, 4136
stem-builders—*see above*, interstocks *and* rootstocks
storage—
air circulation in, 2547, 6127
air washing and humidity control in, 2534, 6151, 6152, 6354
buildings, construction, 412, 6144
cold, 68, 391, 413, 417, 423, 424, 429, 2534, 4432, 4685, 6145, 6151
containers and packing for, 166, 180, 400, 430, 2524, 6127, 6148
dips and coatings, 68, 427, 2548, 4434, 6158, 6165-6167, 7293
diseases, rots, 68, 2536, 2544, 6122, 6151, 6152, 6160-6162
disorders, various—*see also above*, diseases, non-parasitic—427, 2536, 2549, 4419, 4434, 6151, 6162
economics, 2534
gamma irradiation responses, 4422, 4423
gas, 68, 391, 411, 412, 4181, 4421, 4432, 4434, 4685, 6144, 6151, 6152, 6166
general, 2356
metabolic changes during, 2347

Apple—storage (*continued*)—
pest survival in, 4685
plastic bags or box liners for, 413-415, 2537, 4420, 6150
plastic covers for stacked boxes, 2536
pre-cooling treatment, 410, 6147
quality, factors affecting, 68, 299, 301, 302, 378, 430, 2511, 2534, 4396, 4397, 4419
varietal behaviour, 68, 2511, 2536, 2537, 4397, 4419, 4432, 6146
volatile substances—*see above*, fruit, ethylene
wraps, 4434, 6148, 6167
tree thinning, 6082
varieties—*see also above under* growing, mutations *and* storage—
Antonius, 2402
Blaxtayman, 4261
Canadian Spartan, 173
for cider and wine, 2551, 2552
climatic requirements, 225, 2396
Cox's Orange Pippin, 643, 2435, 2496
crab, 168
Delicious and its sports, 2404, 4261
disease resistance, 227, 648, 2400, 2401, 4260, 4576, 4611, 4612, 6351, 6356, 6359
early, 2399
Franklin, 228
Golden Delicious, 417, 4406
Granny Smith, 229
hardiness, 266, 267, 269, 2400, 2434
Hinznanger Apfel, 2400
James Grieve, 2405
Jonathan, 423, 424, 4432, 6122
King David, 2703
lime-tolerance and chlorosis resistance, 168
Melba, 2406
Melrose, 6006
Mombacher Frühe, 231
pest resistance, 4705
for processing, 222, 4258, 6004, 6005
Red Fresca, 173
for spindle bushes, 2492
in various countries—
Canada, 2393, 4254
European, 166, 211, 213, 2354, 2387, 2388, 2390, 2391, 2395, 2399, 4256, 4258, 5955, 6001-6003
the U.S.S.R., 221, 226
wood anatomy, 4580
wood, lignin characteristics, virus infection affects, 6319
yields—*see above*, fruit
Apricot—
breeding, 4383, 5999
climate, spring frost injury and protection, 274, 2419, 2450, 4366, 6064
climate, winter hardiness and injury, 274, 2419, 2450, 4290, 4302
compositon, leaf, 295
composition, whole plant, 4323, 4355
defoliation, artificial, 248
Apricot (*continued*)—
diseases—
bacterial, 2727, 2740
cause uncertain, apoplexy, 4574
fungus—
brown rot (*Sclerotinia* spp.), 5980
canker (*Ceratocystis fimbriata*), 4639
fruit rots, general, 2740
Phytophthora cactorum, 6368
wilt and blackheart (*Verticillium* spp.), 180
non-parasitic, 170
virus, 621, 2712
flower bud initiation and development, 4366, 4375
fruit—
enzyme activity, 384
maturity tests, 431
set, 4383
thinning, 370, 5976, 6109, 6137
yield variation, 5991
growing in various countries, 215, 4251, 5995, 5996
growth—
dormancy, 4355
lignification, 4355
-substance responses, 47, 274, 4375
harvesting, 392, 396, 4639, 6137
nutrition, 170, 319, 4331, 6069
pests—
birds, 6454
insects, 2771, 2787, 2788, 2802, 4675, 6438
mites, 2771, 4675
physiology, 47, 274, 384, 4323, 4355
propagation, 4290
pruning and training, 47, 341, 342, 4366
ringing, 4226
as a rootstock for plum, 261
rootstocks, 259, 2393, 2441, 4274, 4289-4291, 6011
seed treatment, 2439
seed, variety identification by, 4264
soil management, irrigation, 295
soil management, weed control, 4311
species, 6011
storage, 431
varieties—
identification, 4264
in various countries—
Canada, 2393, 4254
China, 2421
European, 213, 2387, 2388, 4263, 4264, 4290, 5995, 5996, 6010, 6011
the U.S.S.R., 221
for wine production, 2551
Apsylla cistellata, 3909
Arabidopsis spp., mutations induced in, 3238, 5973
Araecerus fasciculatus, 7457
Aralia sieboldii, 3196
Arbor-vitae—*see under Thuja*
Archips argyrospilus, 715, 4217, 4674
Arctium lappa, 802

Areca palm—
diseases, 1823, 1825-1827, 3783
flower biology, 1824, 7344
intercropping, 7342
nut composition, 1893, 5541, 7195
nut weight and number, 7345
nutrition, 1827
pests, 1828, 1829, 2212, 3783, 3784
pollination, 1824, 7343
research in India, 1823
root systems, 3778, 3779
seed germination and treatment, 3780, 3781, 7341
seed production, 7343
shade and shade trees, 3782
Arge rosae, 3374
Argemone mexicana, 1509, 7185
Argentina, crops, 4, 1786, 3616, 3652, 3746, 4042, 4440, 5434
Argyresthia thuiella, 1314
Argyrotaenia pulchellana, 5990, 6829
Argyrotaenia velutinana, 746, 747, 752, 4217, 4674, 6436, 6437
Aristolochia bracteata, 1510
Aristolochia triangularis, 7121
Arizona agric. Exp. Stat., A.R., 5959
Armillaria mellea, 2274, 4608, 4609, 7554
Arnhem, Inst. appl. biol. Res. in Nature, A.R., 160, 5966
Arnica montana, 5157
Aroma of fruits and vegetables, determination of, 122
Aromatic plants—*see* Essential oils
Arsenic—
absorption, soil type affects, 5328
content of plants, 7095
determination, 1453
nutrition of plants, 7242
sprays—*see under* Herbicides, compounds, *and* Insecticides
toxicity of soils, 6464
Artemisia—
caruthii, 7122
maritima, 5358, 7123
spp., taxonomy, 5367
Arthrobacter spp., nicotine degradation by, 3453
Arthrobotrys arthrobotryoides, 1140, 3181
Artichoke—
globe—
diseases, 2863
earliness, 2862
irrigation, 2862
pests, 816, 2864, 2865, 6515
varieties, 4216
Jerusalem—
alcohol produced from, 4768
composition, 815, 4768, 6513, 6514
growth substances, endogenous, 4766
growth substances, responses, 62, 5864
irrigation, 6513
physiology, 815, 4767
planting, 3077
Artichoke—Jerusalem (*continued*)—
varieties, 814, 2354, 3077, 6512, 6514
Artocarpus—
cumingiana, latex properties, 7183
heterophyllus or *A. integrifolia*—*see* Jackfruit
lakoocha, 2157
Arundinaria alpina, 7108
Arundinaria japonica, 3505
Arvicola terrestris, 4148
Ascia monuste, 4145
Asclepias spp., growth substance responses, 12
Ascochyta—
cannabina—*see Didymella arcuata*
chrysanthemi—*see Mycosphaerella ligulicola*
pinodella, 936
pisi, 87, 936, 2978
spp., unspecified, 5901
Ascorbic acid—*see* Vitamin C *and individual plants under* composition
Ash (*Fraxinus*)—*see Fraxinus*
Asparagus—
breeding and selection, 818, 2344
climate, temperature responses, 818, 819
composition, 168, 2867
economics, 4770
growing in various countries, 779, 4769, 6184
growth—
cutting practices in relation to, 2866
of spears, yield in relation to, 819, 4772
-substance responses, 820, 4763
harvesting methods, 2869, 4772
harvesting, time of, 2866
nutrition, 28, 2346, 2867, 4771, 6516
packing and grading, 2869
pests, 807
physiology, 818
plumosus, 5953
quality, factors affecting, 168
research in various countries, 2347, 2359, 2365, 6473
soil—
management, cultivation, 6516
management, weed control, 76, 88, 557, 799, 802, 2868, 4756, 4771, 6516, 6517
requirements, 817
sprengeri, 3196, 5905
storage and transport, 4763, 4773, 6507
varieties, 4771
Aspergillus spp., unspecified, 5362, 6282, 6629
Aspidiotus perniciosus—*see* San José scale
Aspidosperma spp., alkaloids from, 5359
Asplenium spp., nutrition, 3342
Aster, China—
diseases, 4134
research in Canada, 2350
seed storage, 4051
seed treatments, 5133
soil fumigation, 4134
varieties, 3239, 5132
Aster spp.—
chromosome numbers, 6830
soil fumigation, 3180
weed control, 6809

Asterolecanium coffeae, 5653
Astrophytum asterias, 3341
Athamantha macrophylla, 3508
Atlas of the British Flora, 5952
Atmospheric pollution—*see* Air
Atomic fission products, uptake by plants, 2213
Atractomus mali, 6412
Atractylis gummifera, 5368
Atriplex hortensis, 4742
Atropa belladonna, 1504, 2347, 3526, 5369, 7124
Auchincruive—*see* West of Scotland agric. Coll.
Aucuba japonica, 5230
Aulacaspis pentagona—see Pseudaulacaspis
Aulacaspis rosae, 3374
Aulacophora foveicollis, 2952, 2953
Australia—*see also individual states*—
  crops—
    deciduous fruit and nut, 216, 2380, 4252
    tropical and sub-tropical fruit and plantation, 1832, 3631, 3653, 7315, 7346, 7474
    vegetables, 2956
  C.S.I.R.O., A.R., 155, 156, 5963
  C.S.I.R.O., Div. Food Pres., Research Review, 2340
  ornamental plants from, 1150
Austria, crops, vegetables, 3112
Autographa californica, 3566
Automation in horticulture, 3
Auxins—*see under* Growth-substances
Avocado—
  breeding and selection, 3634
  climate—
    air pollution, 3643
    frost damage and protection, 3676
    fruit composition affected by, 5435
    temperature responses, 3648
  composition, fruit, 5434, 5435
  composition, leaf, 1637, 1638, 3637, 3640, 5436, 7208
  diseases—
    fungus, root rot (*Phytophthora cinnamomi*), 1639, 1640, 3636, 3645, 5440, 7211, 7212
    fungus, scab (*Sphaceloma persea*), 1641
    general, 3644
    virus, sun blotch, 5439
  economics, 3638
  flower bud initiation and development, 7209
  fruit—
    drop, 7209
    ethylene production, 5441
    metabolism, 3649, 3650
    oil extraction, 4232
    quality, consumer requirements, 1645, 1646
    respiration, 1644, 3650, 3651, 5441
    ripening, factors affecting, 1644, 2507, 3650, 3651
    set, 7209
    temperature responses, 3648
  growing in various countries, 1635, 3631, 3632, 5434, 7204, 7205, 7391
  marketing, 1645, 1646, 3647
Avocado (*continued*)—
  nutrition—*see also above*, composition—25, 1638, 3640, 3641, 7208, 7245
  pests—
    insects, 1643, 3646
    mites, 3646
    nematodes, 1641
  physiology—*see also above*, fruit—
    carbon dioxide fixation, 5438
    metabolic processes, 2507, 3649, 5437, 5438, 7210
    translocation, 5466
  planting on old avocado soils, 1642
  planting, spacing, 3638
  pollination, 3639
  propagation—
    by cuttings, 3635
    by grafting, 3636, 7206
    by marcotting, 3635
    nursery practice, 5536
  research in the U.S.A., 3633
  root exudates, fungus attracted by, 1640
  rootstocks, 1639, 2370, 3637
  soil management—
    fumigation, 1642
    irrigation, 3641, 3642
    weed control, 7207
  soilless culture, 7211
  varieties, 1635, 1636, 3901, 7204
Azadirachta spp., taxonomy, 1317
Azalea—*see also* Rhododendron—
  breeding and selection, 1294
  composition, 5208, 6930
  diseases, 1350, 4221, 6928
  flower bud initiation and development, 5209
  forcing, 1347, 3368
  growing in peat, 3367
  nomenclature, 3362
  nutrition—
    manuring and major elements, 1307, 3366, 3367, 5204-5208, 6929, 6930
    minor elements, 3367, 5208
    salt tolerance, 1348, 3367, 5206
  pests, 1312, 3366, 3384, 6794, 6928, 6932
  physiology—
    growth substance responses, 1155, 5209
    light responses, 3365
    temperature responses, 5206
  propagation, 1294, 1303, 1346, 1347, 3365, 6802, 6928
  research in Holland, 6798
  soil—
    mixtures, 3366, 5204, 5208, 5955, 6929
    pH responses, 5205, 5208
    sterilization, 3208
Azochis gripusalis, 4145
Azotobacter, seed, soil and root inoculation with, 1088, 5975, 6491

Bacillus
  caulivorus, 6836
  lentimorbus, 4144
  popilliae, 4144

Bacillus (*continued*)—
thuringiensis, 193, 714, 859-862, 1933, 2858, 2864, 2912, 4145, 4701, 4816, 6433, 6951
Bacteria(l)—
contamination of—
carnation cuttings, 5118
cut flower containers, 1161
hevea latex, 5698
stored medicinal plants, 5362
diseases—
general—*see under individual crops and organisms*
nutrition affects, 1059, 3169
transmission by insects, 5140, 5550
transmission through soil, 5079
fertilizers, 578, 5188, 6646
fungus controlled by, 6596
mucous-forming, from cabbage, 6523
for pest control, 193, 714, 859-862, 1933, 2858, 2864, 2912, 3995, 4144, 4145, 4701, 4816, 6432, 6433, 6448, 6951
root nodule, 6588
Bactericides—*see also under* Antibiotics, Fungicides *and* Seed treatment—
formalin, 2727
synthetic amides as, 636
zinc sulphate, 2727
Bacterium—*see Erwinia and* Crown gall
Balanites aegyptiaca, 5370
Balanogastris kolae, 7565
Balata, plant sources and extraction, 7182
Balm—*see Melissa officinalis*
Balsam, root formation, 20
Balsgård Fruit Breed. Inst., A.R., 219
Bamboo(s)—*see also individual species*—
destruction by herbicides, 5342
growing as ornamentals, 3500
growing in various countries, 3499, 3501, 7108
growth studies, 5338, 5339
pests, 5340, 5341
propagation, 3504, 3505
species, classification, 3501
stems, water content of, 7107
utilization, 1627, 3499, 3502, 3506, 7108
varieties, 2336
as windbreaks, 3505
Bambusa spp.—
as fibre plants, 1628, 3502, 7108
growth studies, 5338, 5339
propagation, 3504
Banana—*see also Musa*—
breeding, genetics and selection, 200, 1833, 5543, 7368
composition—
flower, 7358
fruit, 1833, 3801, 3802, 5563, 7355
leaf, 1816, 7355, 7356
plant, 7355
root, 5554
diseases—
bacterial, moko (*Pseudomonas solanacearum*), 5079, 5549, 5550
Banana—diseases (*continued*)—
bacterial, rhizome rot (*Erwinia carotovora*), 7361
a book on, 5542
cause uncertain, 2373, 3786, 5979
fungus—
anthracnose (*Gloeosporium musarum*), 1847, 5561
black cross (*Phyllachora* sp.), 3805
blackhead (*Botryodiplodia theobromae*), 1843, 7362
freckle (*Macrophoma musae*), 193
fruit and bunch rots, various, 1842, 3811-3813, 5559, 5560, 5975, 7369, 7375, 7376
fruit spot (*Deightoniella torulosa*), 1846, 3813, 3814, 7357
leaf spot (*Cordana musae*), 7363
leaf spot or sigatoka (*Cercospora musae* (*Mycosphaerella musicola*)), 170, 191, 204, 1844, 1845, 3775, 3809, 3810, 5551, 5552, 7367, 7368
panama disease (*Fusarium oxysporum* f. *cubense*), 3806, 3807, 4237, 5553, 5554, 7364-7366
root rots, various, 3815
speckle (*Chloridium*, *Mycosphaerella* and *Ramichloridium* spp.), 3808
squirter and black-end diseases (*Nigrospora sphaerica*), 5562
virus, 3786, 3804, 5548, 7360
fibre—*see below*, products
flower abnormalities, 3799
flower initiation and development, 3799
fruit—*see also above*, composition, *and below*, packing, storage *and* transport—
blackening, 1833
bunch covers, 3803
bunch weight, factors affecting, 3797, 7356, 7374
development, 7359
firmness, measurement of, 5932
geotropic responses, 3800
maturation, 2507, 3803, 7340
growing as an annual crop, 5547
growing in various countries, 1831, 1832, 2326, 3785-3788, 7346, 7347
growth abnormalities, 3795
growth phases, 1837
leaf—
development, 1837
stomatal movements, 1838
temperature, 3798
nutrition—
foliar, 7357
leaf and fruit analysis as a guide to, 7355, 7356
manuring and major elements, 1840, 1841, 2368, 7355, 7356
minor elements, 3794
packing, 5558, 7373, 7374, 7376
pests—
aphid (*Pentalonia nigronervosa*), 3817

Banana—pests (*continued*)—
borer (*Cosmopolites sordidus*), 1851, 2372, 7371
Caligo eurilochus, 1852
general, 1851
nematodes, 1848-1850, 3815, 3816, 4231, 5555, 7370
Opsiphane tamarindi, 3818
Platynota rostrana, 3819
scab moth (*Nacoleia octasema*), 3820, 5556, 5557
slug caterpillars (*Limacodydes* spp.), 5540
thrips (*Scirtothrips signipennis*), 3820
physiology—
enzymes and their activity, 1833, 2507, 3801
growth substances, endogenous, 3800, 5879
light responses, 1838
photosynthesis, 1838, 2219, 3798
water relations, 1838, 3798, 5549
planting material and its propagation, 1836, 1849, 3815, 5536, 5545, 5546, 7350, 7352 7361
planting methods and spacing, 1831, 3793, 7351
polyploidy, induced, 5543
production and trade, 1830, 3786
products and by-products—
fibre, 205, 5564
flour, 5563
wax, 205
propagation—*see above*, planting material
pruning, 1839
research in—
Australia, 2370
India, 2364
Surinam, 2375, 4238
West Africa, 5978
the West Indies, 3789, 5983
Zanzibar, 5986
rhizomes—*see also above under* planting material—disinfestation, 1849, 3815
root—
exudates, 7366
growth, 5546
pressure, 1881
seed germination, 3792
seed treatment, 1843
seedling morphology, 1835
soil—
management—
earthing up, 7353
fumigation, 1848
intercropping, 7342, 7421
irrigation, 4216
rotations, 1850
weed control, 5596
types, 7354
spray injury, 191, 3810
spray retention on leaf, 4136
storage—
cool, 5558, 7372, 7374
Banana—storage (*continued*)—
dips and sprays, 170, 5558-5562
disorders and diseases, 1842
general, 204
plastic bags for, 170
pre-cooling treatment, 5558
suckers—*see also above*, planting material *and* pruning—production, 3796
taxonomy, 3791, 7348
transport, 5558, 7372, 7374
varieties and species, 2362, 3790, 3791, 3795, 5544, 5564, 7348, 7349, 7359, 7361, 7364, 7366, 7368
as a windbreak, 5583
Baptisia leucantha, 1511
Barathra brassicae, 108, 857, 2858
Barosma betulina, 1538, 5394
Basil, sweet (*Ocimum basilicum*), 3567, 7152
Basutoland Dep. Agric., A.R., 187
Batocera rufomaculata, 1980
Bauhinia spp., pests, 4145
Bauhinia spp., temperature responses, 1318
Bay laurel, photoperiodic responses, 1556
Beans—
broad—*see* Beans (*Vicia*)
french and runner—*see* Beans (*Phaseolus*)
velvet—*see Mucuna* spp.
Beans (*Phaseolus*)—*see also Phaseolus*—
albinism induced in, 5853
anatomy, xylem measurement, 4170
breeding and selection, 916, 922, 2344, 2970, 4892, 4896
climate—
air pollution, 2177, 2180, 2181, 3151
frost resistance, 6582
rain damage, 4873
wind protection, 160, 4873
composition—
leaf, 24, 37, 1816, 2301, 2959, 2966, 3151, 4102, 5844, 6586, 6587
pod and seed, 923, 2861, 4878, 4879, 6581, 6589, 6600,
root, 65, 6586
whole plant, 813, 924, 929, 930, 2272, 4877, 6589
diseases—
bacterial—
common blight (*Xanthomonas phaseoli*), 6582, 6593
general, 6497
halo blight (*Pseudomonas phaseolicola*), 4887, 6593
pod twist (*Pseudomonas flectens*), 935
fungus—
anthracnose (*Colletotrichum lindemuthianum*), 936, 4889
damping-off and root and stem rots (various organisms), 804, 2962-2965, 4891, 6478, 6594, 6595
downy mildew (*Phytophthora phaseoli*), 6596
powdery mildew (*Erysiphe polygoni*), 1202

Beans (*Phaseolus*)—diseases—fungus (*continued*)—
rust (*Uromyces* spp.), 26, 39, 937, 938, 1202, 2966, 2967, 4231, 4890, 6597
general, 4873
varietal resistance, 87, 920, 937, 4882, 4883, 5900
virus, 92, 933, 934, 2961, 4884-4886, 7052
flower—
differentiation and development, 2973
and fruit drop, 6584
and fruit production, factors affecting, 4881
growing—
as an intercrop in orchards, 6054
under plastic, 153, 6583
in plastic pots, 5821
in various countries, 921, 2956, 4862
harvesting, mechanical, 944, 2973, 4897, 6506
harvesting, time of, 168, 6599, 6600
herbicide responses, 79, 86, 4125, 4126, 4756, 4881, 6484, 6592
hybridization, natural, 917
leaf—*see also below*, physiology—
area, fruiting in relation to, 4881
defoliation, artificial, 6599
mitochondria, 4166
movements, 4085
nutrition—
beryllium, 4868
biuret injury, 932
boron, 20-22, 2208
calcium, 2238, 4093, 6589
copper, 24
foliar, 4869, 5834
iron, 25
magnesium, 4093, 6492
manganese, 6590
manuring, general, 777, 6585
molybdenum, 6493
nitrogen, 930, 2990, 4867, 5907, 6588
phosphorus, 930, 931, 2990, 4867, 4869, 5834, 6588, 6589
potassium, 930, 4093, 4867
salt tolerance and injury, 929, 2204, 2959, 2960
seaweed meal, 2849
zinc, 931, 4870, 4871, 6589
pests—
aphids, 933
beetles and weevils (various spp.), 943, 2969, 2972, 4894-4896, 6602
cutworm (*Loxagrotis albicosta*), 942
fly (*Agromyza* (*Melanagromyza*) *phaseoli*), 939-941, 2363
general, 2212, 5982
leaf miner (*Liriomyza pusilla*), 6502
leafhoppers (*Empoasca* spp.), 2970-2972, 4896
mites, 102, 939, 2971, 4142, 4657, 5907
nematodes, 193, 2860, 4892
springtails (*Onychiurus hortensis*), 6598
thrips, 935, 2971
varietal resistance, 4894, 4896

Beans (*Phaseolus*) (*continued*)—
physiology—
absorption and translocation, 26, 932, 2238, 2243, 2251, 2990, 4070, 4153, 4170, 4874, 4875, 5466, 6586
acetate biosynthesis and metabolism, 56
amino acid biosynthesis and metabolism, 4880
antibiotic responses, 4888
carbohydrate metabolism, 37
carbon dioxide fixation, 4125, 4126
chlorophyll synthesis, 2177, 4091
chloroplast movement, 4093
electric potential, 4112
enzyme activity, 24, 92, 4107, 4211, 4886
growth substances, endogenous, 65, 923, 2252, 4876
growth substances, responses, 56, 61, 63, 924, 925, 2191, 2208, 2244, 2246-2248, 2973, 4093, 4122, 4763, 5868, 5869, 5875, 5878
heat injury and resistance, 39, 2232, 4111
inositol metabolism, 4211
photoperiodic and other light responses, 36, 63, 926, 2246, 4085, 4091, 4875, 5848, 6482
photosynthesis, 2219, 4093, 4125, 5839, 5842, 5875
respiration, 41, 56
temperature responses, 926, 2990
vitamin responses, 2191
water relations, 37, 925, 928, 2238, 2243, 4102, 4865, 4874, 5839, 5878, 6586
pod—
drying, 547
quality, 168, 2974
senescence, 2252
set, 4964, 6584
size, 6581
storage, 6507
pollination, 917, 2259, 4863
processing, 947, 6600
research in various countries, 2347, 2354, 2364, 2370, 2376, 6471, 6473
root(s)—
absorption and secretion, 2251, 2964
growth, 22, 4099, 4866
growth substances in, 65
nodule formation, 65, 925, 2992, 6588
production by cuttings, 20, 21, 2191
seed—*see also above*, composition—
coat, permeability to gases, 10
germination, 2971, 4211, 4865, 4879
injury, mechanical, 945, 946
nutritional value, 4878
rates and spacing, 200
secretion, 2964
sowing depth, 2843
sowing, time of, 2974, 6580, 6582
storage, 6601, 6602
testing, 5815
treatments, 789, 805, 2858, 2962, 2971, 4889, 4895, 5875, 6478, 6582, 6593

Beans (*Phaseolus*)—seed (*continued*)—
water uptake by, 4865
soil—
aeration, 4099
compaction, 927, 4866
management—
amendments and conditioners, 2965
fumigation, 193
irrigation, 3396, 4872, 6584, 6585
rotations 2963
weed control, 76, 88, 151, 800, 802, 1085, 1822, 2268, 2957, 2958, 4756, 5538, 5977, 6484, 6488, 6489, 6591
moisture, 928
pH, interaction with salinity, 929
salinity—*see above, under* nutrition, salt
temperature, 2963
soilless culture, 29
spray(s)—
(and other chemical) injuries, 117
(and other chemical) residues, 115, 2858, 4153, 4762, 5914
retention on leaf, 4136
yields increased by, 6504
varieties, 774, 776, 778, 783, 813, 918-922, 947, 2336, 2352, 2359, 2377, 2840, 2974, 4863, 4864, 4894, 5984, 6477, 6579, 6580, 6597, 6600
Beans (*Vicia*)—
breeding and selection, 4896, 5973
composition, 24, 948, 949, 4879, 4901, 4902, 6604, 6607
diseases—
fungus, 951, 952
resistance, 5900
virus, 6496, 6605
herbicide responses, 2987, 4898
mitochondria, 5840
mutations, 6603
nutrition, 24, 157, 177, 2850, 4901, 6604
pests—
aphids, 4133, 4893, 6605, 6607
general, 4216
Mexican bean beetle (*Epilachna varivestis*), 4896
varietal resistance, 4896
physiology—
absorption and translocation, 5863, 6606
enzyme activity, 24
growth substances, endogenous, 994, 4900
growth substances, responses, 5874
light responses, 2234
respiration, 2234, 5840, 5874
pod set, factors affecting, 950
pollination, 950
processing, 947
root—
bioelectric field, 5863
electric oscillations generated by, 5862
fungus flora, 4899
injury, plant residues cause, 4751
nodule composition, 4901
Beans (*Vicia*) (*continued*)—
seed—
germination, 4751, 4879
production, 5973
sowing, time of, 950
treatments, 952
soil management—
fumigation, 952
rotations, 4751
weed control, 166, 4898
spray residues, 105, 4156
varieties, 947
Beauveria bassiana, 1475, 6515
Bee(s)—
flower attractiveness to, nutrition affects, 499
foraging habits, 907, 1620
insecticides in relation to, 769, 2279
plants for, 1620
pollination by, 349, 476, 907, 950, 1031, 1032, 1620, 4795, 4829
Beet(root)—
bolting, 159, 3092
breeding and selection, 3075
composition, 46, 2301
diseases, bacterial, 773, 803
growing in the U.S.A., 1022
growth—
polarity, 6696
studies, 773
-substance responses, 159
herbicide responses, 5889, 6484
nutrition, manuring and major elements, 1023, 1037, 3078, 3134, 4987
nutrition, minor elements, 1037, 3076
pests, insects, 1024, 3088, 4893, 4989
physiology, translocation, 3134
research in various countries, 2336, 6471, 6473
roots, flavour, factors affecting, 3088
roots, white rings in, 3075
seed—
germination, 790, 791, 1023, 1024, 2843, 4989, 5889
production, 1023, 1024, 4986, 4989
quality, 1023
sowing depth, 2843
toxic substances in, 5817
treatment, 789, 805
seedlings, overwintering, 3092
soil management, irrigation, 797
soil management, weed control, 76, 799, 800, 2852, 2854, 3086, 6484, 6489, 6490
spacing, thinning or singling, 3077
spray injury, 3180
spray residues, 4762
varieties, 2354, 2840, 3076, 6695
Begonia—
breeding and cytology, 6857, 6858
diseases, 1209, 3190, 5902
freezing of tissues, 4044
growth substance responses, 1208, 6859
nutrition, 6791
pests, insects, 6793

Begonia (*continued*)—
physiology, light and temperature responses, 1208, 4175, 5841
pollen quality, 6857
polyploidy induced by colchicine, 6858
pots for, 5821
propagation by cuttings, 1208, 4175, 6803, 6860
tuber production, 1208
varieties, 2343, 6857
Beijerinckia spp., nitrogen-fixing bacteria in, 3965
Belgian Congo—*see* Congo
Belgium—
crops, fruit, 6194
crops, vegetables, 3006, 6692
flora, 2328, 4200
Bemisia spp., as virus vectors, 3467
Benincasa cerifera, 2955
Berberis spp., propagation by cuttings, 5110, 5803, 6802
Bergamot (*Citrus bergamia*)—*see under* Citrus
Bergenia spp., as tannin plants, 3624
Bermuda Dir. Agric., A.R., 188
Bermuda grass—*see Cynodon* spp.
Bertholletia excelsa, 2158
Beryllium as a plant nutrient, 4868
Betula spp.—
pests, 1313, 5226
propagation, 3203, 6798
rootstocks, 6806
Bibliographies on—
agricultural meteorology, 4043
apple marketing, 6135
black currants, 4476
carrots, 1025
nuts, 6288
oil palms, 5672
Bicarbonate, radioactive, uptake by roots, 3131
Biennial or irregular bearing in fruit and other trees—*see also* Apple, Citrus *and* Mango *under* fruiting—327, 4226, 7309, 7322
Bindweed (*Convolvulus* spp.) control, 486, 557
Birch—*see Betula*
Birds, harmful—
control—
by covers (plastic or net), 2824, 4710
general, 2823, 4711
by poisoning, 2095, 6454
by repellents, 88, 2821, 2824
by scarers, 2822
by sound recordings and disturbing roosting sites, 2824, 2825, 6455
by trapping, 6454
damage to crops, 2823, 4711
Birmingham Univ., A.R., 4211
Biston suppressaria, 4022
Biuret injury to plants, 932, 4073, 5641
Bixa orellana, 3558
Bixadus sierricola, 2366, 7448
Blackberry—*see also* Boysenberry—
breeding and selection, 219, 2354, 3582, 4468
Blackberry (*continued*)—
climate, frost damage and resistance, 494
composition, fruit, 471, 2584, 4472
composition, leaf, 471, 4345
diseases, 4489, 6186
fruit storage, 6186
growing in the U.S.A., 473
harvesting, mechanical, 2584, 4472
leaf, ultraviolet light absorption by, 4096
nutrition, 2358
pests, 706, 4489, 4665, 6423
pollination, 4466, 6192
propagation, vegetative, 1294
× raspberry hybrids, 2583
soil management, weed control, 5117, 6185
varieties, 221, 222, 435, 473, 2359, 2582, 4469-4471, 4489
Black-currant—*see also Ribes*—
a bibliography on, 4476
breeding and selection, 219, 479, 4465
climate, spring frost injury and protection, 4479
climate, winter hardiness, 485, 487, 2593, 4479, 6044
composition, fruit, 471, 2340, 2513, 2594, 2597, 4477, 4482
composition, leaf, 471, 2338, 4345
diseases, fungus, 157, 480, 2744
diseases, virus, 165, 4591
economics, 2591, 4476
flower bud differentiation and development, 483, 484, 2596, 4476, 4480
fruit—*see also above*, composition—
bunch length, growth substances affect, 6190
development, 2596, 4480
drop, 6191
ripening, metabolic changes during, 4482
set, 2596, 6190, 6191
fruiting ability, evaluation, 2595
growing in various countries, 489, 2591, 4476, 4477, 6187, 6188
growth substance responses, 6190, 6191
harvesting, mechanical, 488
harvesting, work studies, 2595
herbicide responses, 282, 285, 4459
nutrition, 158, 487, 2744, 4480
pests, insects, 691, 2768, 2775, 4689, 6422
pests, mites, 691, 704, 4142, 4568, 4666, 4667, 4722, 5971, 6409
physiology, photoperiodic responses, 2513
planting, spacing, 2597
planting, transplanting, 482
pollination, 2596, 4466
processing, 4476
propagation, vegetative, 481, 482, 4274, 6189
pruning, 2597, 2598, 4480
research in various countries, 2348, 5969, 6798
soil management, mulching, 159, 178, 2336
soil management, weed control, 159, 280, 285, 486, 4459, 5117, 6185

Black-currant (*continued*)—
spray—
injuries, 705, 4722
residues, 105, 2291
retention by leaves, 4136
varieties, 221, 222, 479, 480, 489, 2354, 2551, 2592-2595, 2597, 4478, 4479, 4494
Blepharidopterus angulatus, 4715
Bletilla striata, 3277
Blueberry—*see also Vaccinium*—
climate, frost damage, 2269
diseases, fungus, 609, 671, 672, 2269
flower—
bud differentiation and development, 2586
male sterility in, 2587
nectar production, 2588
growing in European countries, 2336, 2585, 4473, 6193, 6194
growing in North America, 474
growth studies, 2586
herbicide responses, 4475
pests, insects, 6794
pests, nematodes, 609
physiology, light and temperature responses, 2586
pollination, 476, 2587, 6195, 6196
propagation, vegetative, 3203
research in the U.S.A., 5970
seed development, 6196
soil management, weed control, 76, 82, 286, 2358, 2359, 2460, 4475
varieties, 222, 475, 2585
Blumeriella jaapi—see Higginsia hiemalis
Bolting—*see also under* Temperature responses —in vegetables, 159, 1029, 2222, 2871, 2879, 2895, 2896, 2901, 3070, 3092, 4790
Book reviews—*see* Reviews
Books—*see* Manuals
Borassus flabellifer, 1881
Boron—
application, foliar, 155, 156, 299, 313, 314, 421, 569, 1094, 2464, 2673, 3758, 4226, 6071, 6294, 7017
application by injection into plants, 3758
availability, soil pH affects, 4999
content of plants, distribution, 19, 3305
content of plants, factors affecting, 18, 313, 1637, 2959, 3640, 5686, 7489
deficiency—
fruit size in relation to, 574
plant composition in relation to, 1425, 6294
symptoms, 314, 1860, 1994, 3076, 4068, 4069, 4333, 4547, 4599, 6294, 6710, 7383, 7459
determination, 4160
effects on—
disease development, 2744, 6765
enzyme activity, 23
flowers' attractiveness to bees, 499
fruit composition, 1099
fruit ripening, 155, 156
pollen germination, 2257
Boron—effects on (*continued*)—
root initiation and development, 20-22, 2208
sugar translocation, 2208
interrelationships with other elements, 2472, 3692
nutrition of crops—
fruit and nut trees, deciduous, 155, 156, 299, 313, 314, 421, 2464, 2474, 4333, 6071, 6294
fruit and plantation crops, evergreen, 1860, 3692, 3758, 3876, 4018, 5668, 7383
ornamentals, 20, 3398
small fruits and vines, 569, 574, 2673, 2744, 4547
tobacco—*see* Tobacco
vegetables, 20, 1037, 1093, 1094, 1099, 4999, 6659,
sources, 4333, 4999
tolerance and toxicity, 19, 575, 1245, 2105, 3305, 4068, 4333, 7017, 7231
Boronia spp., methyl bromide injury, 1271
Boskoop Tree and Shrub Nursery exp. Stat., A.R., 6798
Botanic gardens, Moscow, 5802
Botanic gardens, South Australia, A.R., 5109
Botanists, N. American, a book on, 2327
Botany, a book on, 2330
Botryodiplodia theobromae, 1843, 2140, 7362, 7400, 7491
Botryosphaeria—
dothidea, 609
marconii, 7160
ribis, 3812
Botrytis—
allii, 6497
cinerea, 303, 436, 495, 674, 764, 951, 1126-1128, 1186, 2273, 2354, 2356, 2557, 2573, 2696, 2746, 3017, 3534, 4424, 4553, 4613, 4646, 4942, 5977, 6186, 6202, 6282-6284, 6348, 6377-6380, 6385, 6386, 6390, 6497, 6817, 6836, 7160
fabae, 951
gladiolorum, 1221
infestans, 7160
paeoniae, 5148
ricini, 5419
spp., various and unspecified, 157, 2269, 2272, 2342, 2609, 4971, 6689
tulipae, 6882
Bougainvillea—
composition, 5231
haploidy, 3386
nutrition, 3190
pests, 3388
propagation, 3387, 6805
varieties, 1320, 6948
Boxwood pests, 1294, 1313, 3384
Boxwood research in the U.S.A., 4228
Boysenberry—*see also* Blackberry—diseases, 173
Brachycaudus helichrysi, 6330
Brachyrhinus cribicollis, 6515

Brasenia schreberi, 7164
Brassica(s)—*see also under* Crucifers *and individual crops*—
bolting, 2871
breeding and selection, 775
composition, strontium-90, 2874
composition, sulphur compounds, 172
diseases, various, 2356, 2905-2907, 4217
hybridization, vegetative, 3111
juvenility, flowering affected by, 2871
pests, 856, 2350, 2858, 4807, 4810, 4814
pollination, 4780
research in various countries, 2336, 2355, 2377
seed treatment, 2907
soil management, irrigation, 4064, 4235
soil management, weed control, 4758
spray residues, 105, 2858
Brazil, crops, fruit, 5443
Brazil nut diseases, fungus, 2158
Breeding, plant—*see also* Polyploidy *and individual crops under* breeding, *and for irradiation*, Gamma *and* X-rays—world list of breeders, 2329
Bremia lactucae, 1193, 6650
Brevicoryne brassicae, 87, 172, 853, 2908, 4807-4809, 5147, 6541
Brevipalpus—
australis, 3723
chilensis, 767
inornatus, 3366
phoenicis, 3723, 4021
Brinjal—*see* Eggplant
British—
Columbia Dep. Agric., A.R., 152
Guiana Dir. Agric., A.R., 2362
Honduras Dep. Agric., A.R., 189
Honduras Dep. Agric., Cane Farming Officer, A.R., 7500
Solomon Is. Prot. Dep. Agric., A.R., 190
West Indies centr. Sugar Cane Breed. Stat., Barbados, A.R., 2036
Broccoli—*see* Cauliflower and broccoli
Bromine absorption by plants, 4223
Bromine determination, 5915, 7268
Brontispa limbata, 3392
Broomrape—*see Orobanche*
Brumus suturalis, 3725
Brussels sprouts—*see also under* Brassicas—
breeding and selection, 773, 2870, 4774
composition, 824, 4161, 4777, 4781
diseases and disorders, 773, 4778
economics, 821
flowers, male sterility, 4774
flowers, removal, growth response to, 4779
growing in Holland, 821
harvesting, 2873
mutations, 6519
nutrition, 4781
nutritional value, 4777
pests, 87, 853, 2902
planting, spacing, 5971
pollination, 4780
Brussels sprouts (*continued*)—
research in Great Britain, 2354, 6471
research in Holland, 6473
seed sowing, direct, 4776
soil management, fumigation, 2902, 4781
soil pH, 4781
spray residues, 4156
storage and preservation, 2344
varieties, 774, 822, 823, 2875
Bryobia—
arborea, 693, 4724
praetiosa, 696, 702, 6796
rubrioculus, 692, 767, 4664
Bryophyllum spp.—
composition, 2228
genetics, 3337
nutrition, 5196
physiology, 34, 2228
pollen fertility, 3336
Bryophytes in landscape gardening, 3322
Budding—*see also* Budwood, Grafting *and separate plants under* propagation—
bud constriction and its effects, 4279
collar, 2686
of dormant plants, 6936
greenwood, 6290
micro-, 3665
patch, 6304
wraps for, 1953
Buddleia spp.—
breeding, 1294
photoperiodic responses, 5232
phylogenesis, 5232
Budwood, position on parent tree, 257, 3664, 4506
Budwood storage, 1294, 4274, 6798
Buildings, farm, 2533
Bulb(s)—*see also individual plants*—
a book on, 5166
diseases, 88, 2269
drying, 5955
forcing, 1207, 3309
fumigation, 109
growing in various European countries, 1207, 2348, 3191, 5955, 6786
harvesting, 3274
hot-water treatment, 1233, 3272, 3273, 3313
machines—*see under* Machines
pests, nematodes, 3313
production and trade, 1207
research in Great Britain, 169, 3308
soil management, weed control, 178, 4123
storage, 13, 1207, 1233, 2269, 5967
Bulgaria, crops, fruit, 6207
Bulgaria, crops, medicinal plants, 5354, 5355
Bundesanst. PflSchutz, Vienna, Rep., 2266
Buphthalmum salicifolium, 5955
Burr knots—*see also* Sphaeroblasts—roots produced by, 333
Bush fruits—*see* Small fruits
Butterbur (*Petasites japonicus*), as a vegetable, 5102
Byturus tomentosus, 2342

Cabbage—*see also under* Brassicas—
bacterial isolates from, 6523
bolting, 832, 2879, 2901, 4790
breeding and selection, 773, 826, 843, 2870, 2878, 2906, 4774
Chinese, 802, 841-843, 2229, 4790, 4791, 6494
climate, frost resistance, 2169, 2170
climate, temperature responses, 842, 2901, 4786, 6522
composition, 2861, 2878, 2886, 2906, 4777, 4787, 6510
diseases—
bacterial, 2904
fungus, 178, 773, 794, 850, 851, 980, 2342, 2878, 2906, 4134, 4806, 6478
general, 6537
non-parasitic, 829, 4783, 5977
resistance, 2337
virus, 172, 2859, 6538
economics, 2880
flower bud initiation and development, 842, 4786, 6522
flower, male sterility, 4774
goitrogenous activity, 836
growing in various countries, 779, 784, 825, 2876, 6518
growth, head formation, 4785
growth substance responses, 794, 2879, 2901
harvesting, 87, 2873
herbicide responses, 2884, 4788, 6484
hybrids, vegetative, 4782
leaf shape, 4785
leaf wax, 5860, 5871
nutrition—
foliar, 2342, 4791
manuring and major elements, 177, 833-835, 2880-2882, 3096, 4747, 4748, 4787, 4791, 4831, 6491
minor elements, 836, 2872, 6494
sodium and salt injury, 796
nutritional value, 4777
pests—
aphids (*Brevicoryne brassicae*), 172, 857, 2908, 4808, 6541
armyworm (*Barathra brassicae*), 857
bug (*Eurydema ornata*), 4811
butterfly (*Ascia monuste*), 4145
butterfly or worm (*Pieris* spp.), 193, 860-862, 2909, 2910
caterpillars (unspecified), 5979
diamond back moth (*Plutella maculipennis*), 861-863, 2910, 4133, 4816
flea beetle (*Psylliodes* sp.), 856
fly(root) (*Hylemyia* spp.), 159, 773, 2909, 4812, 6499, 6542, 6543
general, 6432
larger cabbage moth (*Crocidolomia binotalis*), 4816
loopers (*Plusia* and *Trichoplusia* spp.), 193, 858-860, 862, 863, 2910, 4816
thrips, 4812
varietal resistance, 853
webworm (*Hellula undalis*), 4816
Cabbage—pests (*continued*)—
weevils (*Ceuthorhynchus* spp.), 4812
physiology and metabolism—*see also above under* climate—2883, 3096, 5846, 5871
planting, spacing, 178
red, 4777, 4784
research in various countries, 2354, 2364, 6471
seed—
germination, 830
production, 794, 831
sowing date, 832, 2880, 4786, 4790
sowing, direct, 4776
treatments, 831, 2879, 2904, 4812, 6478
seedling production, 4061
Siamese, 5974, 6521
soil—
management—
fumigation or sterilization, 4061, 4134
irrigation, 2883, 4791
weed control, 171, 178, 800, 802, 2358, 6484, 6485, 6521
pH requirements, 2906
soilless culture, 29
spray residues, 2858, 4151, 4156
storage and hydrocooling, 87, 827, 828, 2885, 4789, 6533
varieties, 202, 744, 783, 827-829, 851, 2370, 2876, 2877, 2885, 4783, 4784, 6477, 6520
Cacao—*see also* Cocoa—
bean(s)—*see also below*, seed—
composition, 5615
drying, 5613
fermentation, normal-scale, 1869, 3833, 5613- 5616
fermentation, small-scale, 5615
flavour components and their assessment, 5611, 7390
fumigation, 5617
insecticide residues in, 5612
pests of stored, 5612
quality, 1867, 1868
waste as a manure, 303
a book on, 3821
botany, a review on, 5569
breeding and selection, 5575, 5576, 5578
climate, rainfall, 3828
climate, wind damage, 5583
clones, 204, 5575, 5577, 5578, 5983
composition—*see also above*, bean—leaf, 1860, 1681, 5595, 7383
composition, tree, 5593, 5594
diseases—
cause complex or uncertain, cherelle wilt—*see below*, fruit set and drop
cause complex or uncertain, cushion gall—*see also below*, fungus, green-point—1854, 3830, 7386
fungus—
black pod (*Phytophthora palmivora*), 201, 203, 1854, 1855, 1863, 3828, 3829, 5602, 5603, 7388, 7389

Cacao—diseases—fungus (*continued*)—
blue rot (*Ceratocystis fimbriata*), 5605, 7387
green-point cushion gall (*Calonectria rigidiuscula*), 1864, 3827, 5604, 7386
witches' broom (*Marasmius perniciosus*), 5606
general, 4239, 5539
virus, 203, 1861, 5600, 5601, 5975
economics, 601, 5570-5574, 5897
fruit set and drop, 5592, 5599, 5610
growing, history of, 7334
growth, soil depth affects, 5585
nutrition—
deficiency symptoms, 1860, 7383
foliar, 5591
leaf analysis as a guide to, 1860, 1861, 7383,
manuring and major elements, 1860, 1861, 2368, 5588, 5590-5594, 7383
minor elements, 1860, 1861, 2368, 3829, 5595, 7383
shading affects, 1854, 5588, 5589, 5593, 7382
pests—*see also above*, bean—
beetles and borers (*Xyleborus* spp.), 5605
capsids (*Distantiella, Sahlbergella* and other spp.), 601, 1855, 1866, 3827, 3831, 3832, 5540, 5607, 5608, 7388
control, economics, 601
general, 201, 1865, 3831, 3832, 5539
pod borer weevil (unspecified), 1855
weevil (*Pantorhytes* sp.), 5609
physiology, enzyme activity, 1863, 5602
planting, plastic coating to aid, 5581
planting, spacing, 5588, 5592
pod—*see above*, fruit
pollen storage, 5598
pollination—
artificial, 1856
by insects, 3825, 3826, 5597, 7385
self-compatibility and incompatibility, 7384
products and by-products, 303
propagation—
bark inversion to cause dwarfing, 5582
by budding or grafting 3823
by cuttings, 1858, 3822, 5580
fungicide treatment of rooted cuttings, 201
by layering, 4234
by marcotting, 3823
methods compared, 3823
nursery practices, 5536, 5580
pruning and training, 3824, 5587
research in—
Central America and the West Indies, 1854, 5566, 5568
Central and West Africa, 196, 5567, 5978
the Far East and South Pacific, 197, 2369, 5979
South America, 200, 2375, 4237, 4238, 5984, 7380
root growth, 5585
Cacao (*continued*)—
seed—
germination, 5579
quality, position in pod affects, 1855
treatment, 1854, 1857, 5579
seedling production, packing and distribution, 1856
shading, 1854, 2016, 5583, 5588, 5589, 5592, 7381, 7382
soil—
management—
intercropping, 2016
irrigation, 5584
weed control, 1822, 5596, 7339
requirements and types, 1859, 5585
waterlogging, 5584
soilless culture, 4076, 5586, 5595
spray(ing) and dust(ing)—
damage, 5603
deposits and residues, 5612
economics of, 5897
yields affected by, 5610
sterility—*see above under* pollination
taxonomy, 5569
varieties—*see also above*, clones—5600
Cacoecia pronubana, 7278
Cacti—*see also Opuntia*—
books on, 1255, 1256, 6903
edible, in Madagascar, 2159
hybridization, vegetative, 3341
propagation, 1257, 1258, 3340, 3341
soil composts, 3339, 6910
Caesalpinia pulcherrima, 5407, 7163
Caesium, absorption and translocation, 4067
Caffeic acid in plants, 4355, 7120
Caffeine biosynthesis, 1924, 2151, 4029, 5656
Cajanus gandal, as a shade plant, 3867
Calabrese—*see under* Brassica *and* Cauliflower
Caladium spp.—
composition, 46
pests, nematodes, 6907
weed control, 6906
Calceolaria varieties, 5134
Calcium—
absorption by plants, factors affecting, 1048, 2238, 2462, 2677, 4067, 6586, 6589
application, foliar, 155, 156, 315, 422, 867, 1309, 2541, 2542, 3137, 4226, 4342, 4427, 4429, 6157-6160
content of plants—
essential oil content in relation to, 3563
factors affecting, 500, 567, 796, 900, 906, 930, 1038, 1048, 1389, 1395, 2462, 2677, 3399, 3461, 3640, 5055, 5185, 5208, 5247, 7395, 7489
tropical vegetables, 1817
cyanamide, as a fungicide, 87
cyanamide, as a herbicide—*see* Herbicides, compounds, cyanamide
deficiency symptoms, 156, 1821, 1860, 1994, 3141, 4068, 4598, 4994, 6710, 7383
determination, 123, 2300, 2301, 4161, 5921
excretion by roots, 1048

Calcium (*continued*)—
interrelationships with other elements, 636, 796, 906, 930, 1058, 1388, 1703, 1708, 1861, 1919, 2137, 2469, 3692, 3696, 3702, 3757, 3970, 4340, 4342, 4429, 4454, 4787, 4868, 4994, 5055, 5208, 5669, 5965, 6511, 6751, 7004, 7238
nutrition—
disease resistance affected by, 951, 1128, 1131, 3169
flower sex expression affected by, 906
of fruit and plantation crops, evergreen—*see also* Citrus *and* Sugar-cane—1860, 2137, 3698, 7383
of fruit trees, deciduous—*see* Apple
of miscellaneous crops, 1388, 1396, 5347
of ornamentals, 1309, 5106
physiological effects, 4093
plant analysis as a guide to, 498, 7395
of small fruits, 498, 2577
of vegetables—*see also* Tomato—867, 906, 986, 1036, 1058, 4994, 6722
radioactive, 1048, 2238, 4070, 5877, 6070, 6589, 7156
sources, 1089, 1396, 3970, 5347, 5778
toxicity, 4068
translocation, 47, 156, 1048, 4070, 6586, 6589
Calendula—*see* Marigold
Caligo eurilochus, 1852
Caliroa cerasi, 4706
Callus formation—
cambium regeneration in relation to, 15
growth substances affect, 5836, 5837
in vine grafts, 521, 2634
zinc nutrition affects, 5837
Calonectria rigidiuscula, 1864, 3827, 5604, 7386
Calystegia sepium, 486
Calythrix tetragona, 5975
Cambial activity—*see under* Growth rhythms
Cambium formation in grafts and wounds, 15
Cambodia, Inst. Rech. Caoutch. Cambodge (I.R.C.C.), A.R., 2008
Cambridge, Low Temp. Res. Stat., A.R., 4218
Camelina sativa, 7186
Camellia—*see also* Tea—
diseases, 1321
drought resistance, 3361
growing in Germany, 3389
growth substance responses, 3382
light responses, 5841
nutrition, 1348
pests, 1312, 1315, 3384
propagation, vegetative, 1321, 3205, 4055
rootstocks, 1321
species and varieties, 3361, 5233
Year Book, roy. hort. Soc., 3361
Cameraria spp., on oaks, 1314
Cameroons Develop. Corp., A.R., 191, 5978
Camphor—*see* Essential oils
Canada—*see also individual provinces and exp. Stats*—crops, 474, 2612, 3513
Canada Dep. Agric., A.R., 153
Canarium spp., oil composition, 1582
Canary Islands, crops, 7347
Candelilla wax, 5959
Candytuft, embryology, 31
Canna diseases, fungus, 1210
Cannabis sativa—*see* Hemp
Canning—*see separate crops under* processing *or* products
Cantaloup—*see under* Melon
Canterbury agric. Coll., N.Z., A.R., 4212
Cape gooseberry—*see Physalis peruviana*
Cape Verde Islands, crops and flora, 2167
Capnodis tenebrionis, 6011
Capnodium citri, 1761
Capparis spp., as medicinal plants, 1512, 1513
Capsella bursa-pastoris, 627
Capsicum—
breeding, genetics and selection, 794, 1052, 5007, 6719
climate—
air pollution, 5811
light responses, 793
temperature responses, 5012, 7153
wind protection, 5014
composition, 1053, 2861, 3104, 3109, 5011, 5013, 6725-6727
diseases—
bacterial, 1059, 3106, 3107, 6723
fungus, 804, 3108, 6478, 6724
non-parasitic, 1058, 6722
virus, 3105, 3163, 6763
economics, 1055, 1060, 6717
flower initiation and development, 1057
flower removal, 6722
fruit—
development, 1055
packing and storage, 5013
quality, 3109, 6721, 6723
removal, 6722
size, factors affecting, 1054
growing—
under glass, 3103, 5955, 6717
as an intercrop, 1051
in various countries, 3102, 6716
growth substance responses, 794, 5012
harvesting, 1060
hybrids, vegetative, 1053, 6720
nutrition, 20, 1057-1059, 2849, 3106, 5986, 6721, 6722
pests, 808, 3108
physiology—*see also above under* climate—26, 3618, 5010, 5013, 6725, 6726
planting, spacing, 1054-1056, 3104, 6721
pollination, 1052
research in various countries, 2350, 2364, 4216, 6715
root studies, 20, 4866, 5977
seed—
sowing dates, 3103
sowing, direct *vs.* transplanting, 5007
treatments, 3125, 4743, 6478
seedling production, 793
soil—
compaction, 4866

Capsicum—soil (*continued*)—
conditioners, 5011
management—
cultivation, 1056
irrigation, 797, 1054, 5058
mulching, 798, 6480
weed control, 6745
species and varieties, 783, 5008, 5009, 5979, 6477, 6718, 6721, 6724
Caragana arborescens, 1322
Caraway (*Carum carvi*), 87, 88, 1474, 3510 5358
Carbohydrates—*see also* Sugars *and individual compounds*—
biosynthesis, 2331
determination and separation, 2298, 3457 3742
diseases in relation to, 5900
flower bud formation and flowering in relation to, 3903
metabolism and translocation, 815, 2331, 4493, 5960
Carbon—
dioxide—*see also* Photosynthesis *and* Respiration—
atmospheric—
in greenhouses, 4194
measurement of, 4048
in sugar cane fields, 2097
fixation, 34, 79, 1715, 4095, 4125, 4126 5438
permeability of seed coats to, 10
radioactive—*see below*, radioactive
for storage—*see* Storage, gas
supplementary, for glasshouse crops, 887, 3014, 4194, 4195, 4441, 5104, 5948, 5949, 6643
threshold for photosynthesis, 5847
monoxide, plant responses to, 5833
radioactive, 60, 79, 121, 332, 367, 368, 932, 1426, 1568, 2027, 2208, 2308, 2966, 3448, 3453, 3456, 3549, 4125, 4126, 4329, 4493, 4838, 4839, 5085, 5289, 5290, 5418, 5421, 5437, 5438, 5466, 5843, 5877, 7038, 7042, 7043
Cardamoms (*Elettaria*, *Amomum* and *Aframomum* spp.), 1475, 2364, 5343
Caribbean—*see* West Indies
Carissa carandas, 5790
Carnation—
breeding and genetics, 1163, 3221
composition, 3190
diseases—
bacterial, 1167, 3226-3228
fungus, flower rots (various spp.), 6817
fungus, root rot, stem rot and wilt (various spp.), 87, 1169, 3219, 3226, 3227, 6815, 6816
general, 3190
testing cuttings for the presence of, 3226
virus, 3225, 6814
economics and labour requirements, 3220, 5803, 6811
Carnation (*continued*)—
flower(s)—
calyx splitting and other malformations, 1165, 2345, 6813
cut—
packing, storage and marketing, 1160, 5119, 5120
prolonging the life of, 3201, 6797
quality, factors affecting, 3219
initiation and development, 1164, 3224
size, factors affecting, 1165
stem length, factors affecting, 1165
growing—
under glass or plastic, 2343
in Great Britain, 3218
in peat, 3195
nutrition, 1166, 2345, 2346, 3190, 3219, 3223, 5830, 6812
pests—
general, 4216
insects and mites, 102, 767, 1172, 5955, 6817
nematodes, 98, 1168-1171
physiology, photoperiodic and other light responses, 1164, 3224, 6813
physiology, temperature responses, 1165
planting, spacing, 3222
pots for, 5821
propagation by cuttings, 193, 1167, 3225, 3226, 5118
research in various countries, 2345, 5965
soil management, fumigation, 193, 3180, 3219
soil management, watering, 3190, 3219
spray injury, 3180
varieties, 3190
Carnauba (*Copernicia cerifera*), 5430
Carob—
fruit, growth substances in, 1649
growing in India, 1647
nutrition, 5980
varieties, 1648
Carolina, North, St. Coll. Sch. Agric., A.R., 4222
Carotene—*see under* Vitamin A
Carotenoids—*see under* Pigments
Carpophilus spp., on dumps of waste fruit, 736
Carposina niponsis, 749
Carrot—
a bibliography on, 1025
breeding and selection, 1029, 2263, 5977, 6698
climate, composition in relation to, 1038
climate, drought resistance, 791
composition, leaf, 45, 3095, 4161, 5926
composition, root, 122, 1028, 1033, 1038, 1044, 1045, 2263, 3091, 4161, 4747, 4992, 4994, 4998, 5926, 6548, 6698, 6707
diseases—
bacterial, 1041, 6497
fungus, 1041
non-parasitic, 1040, 3087, 4994
virus, 87, 186, 5975

Carrot (*continued*)—
economics, 1034
flower, male sterility, 6701
flowering, factors affecting, 1029, 4084
growing in glasshouses, frames or cloches, 1034, 4737, 4991, 4992
growing in various countries, 1026, 1027, 3079, 4990
growth studies, 773, 1033
harvesting, 3090, 6506
herbicide responses, 3086, 6484
nutrition—
foliar, 2342
manuring and major elements, 157, 777, 1035, 1037, 1038, 2850, 4747, 5975
minor elements, 1036, 1037, 2851, 4994
sewage sludge injury, 2850
sodium and salt tolerance, 3095
packing, 68
pests—
insects, fly (*Psila rosae*), 773, 1035, 1042, 1043, 2858, 4996, 6499
insects, various, 3027, 3088, 6499, 7109
nematodes, 1041, 4760, 4995
physiology—
growth substance responses, 3084, 6548
temperature responses, 1029
tissue culture, 3083
pollination, 1031, 1032
propagation, vegetative, 4084
research in various countries, 2336, 2354, 6471, 6473
root—*see also above*, composition—
aroma, 122
flavour, 3088
growth rate, 1033
quality, overwintering affects, 3082
shape, 1028
splitting, 1028, 3081, 3087
storage and pre-storage treatments, 3091, 4998
thinning, 1034
seed—
germination, 786, 790, 1032, 2186, 2843
production, 1030-1032, 4964, 4986, 6697
sowing—
dates, 1043, 3082
depth, 2843
in pots or boxes, 4992
rates and spacing, 773, 1035
storage and longevity, 787, 788, 4051
treatments, 791, 805, 1021, 1043, 3089
soil management—
fumigation, 3087, 4995
intercropping, 1043
irrigation, 797
weed control, 76, 88, 151, 171, 179, 799, 800, 802, 1039, 1043, 2273, 2347, 2852, 2855, 3057, 3085, 3086, 4756, 4993, 6484, 6485, 6489, 6490, 6702-6706
spray and dust residues, 765, 3089, 4151, 4997
spray responses, 1044, 3180
Carrot (*continued*)—
storage—*see above*, root *and* seed
varieties, 774, 778, 1027, 1028, 2350, 2364, 2370, 3080, 4991, 6699, 6700
Carthamus tinctorius—*see* Safflower
Carum ajowan, 1473
Carum carvi—*see* Caraway
Carya spp.—*see also* Pecan—rootstocks, 6806
Carya spp., taxonomy, 6300
Caryophyllaceae, growth substance responses, 59
Caryopteris, pests, nematodes, 1323, 5234
Caryopteris, winter injury, 5234
Casearia sylvestris, 7121
Cashew—
composition, leaf, 1816
composition, nut and shell, 1870, 3834, 5621
growing in various countries, 3834, 3835, 5618, 7391
pests, 2212, 5619
production and trade, 5620
propagation, 195, 2364, 5536
research in various countries, 4239
varieties, 5979
Cassia—
fistula, 7125
occidentalis, 3519
spp., as a source of senna, 205
Castelfranco "radish", 3026
Castnia daedalus 204, 4238
Castor(bean)—
breeding and selection, 1986, 7187, 7188
composition, bean, 1612, 7191
composition, pomace, 1612
diseases, 5419
flowers, sex expression, 1608-1610, 7188
growing in various countries, 1605, 1606, 6475
harvesting machines, 1611
mutations, 1608
pests, 5982
physiology—
carbohydrate metabolism, 7189
growth substance responses, 1609
oil metabolism, 5418, 7190
radiation responses, 1610
planting, spacing, 3617
production and trade, 5417
products and by-products, 7191, 7267
research in various countries, 3914, 4221, 4235, 7335
seed—
abnormality, 1607
germination, 7189
oil formation, 7190
production, 1608
treatment, 1610, 2842
soil management, irrigation, 1605, 1606, 4064
soilless culture, 4079
varieties, 3616, 3617, 5959, 7187, 7188
Catalpa spp.—
growth substance and photoperiodic responses, 5222
pollen germination, 2255

Catalpa spp. (*continued*)—
rootstocks, 6806
Catechins—*see under* Phenolic compounds
Catharanthus spp., botany, composition and pharmacology, 1550
Cation exchange in leaves, 6266
Cation exchange in roots—*see* Root(s)
Cattleya orchids—*see also under* Orchids—1266, 5201, 6915
Cauliflower and broccoli—*see also under* Brassicas—
breeding and selection, 773, 4792, 6525
climate, temperature responses, 6529
composition, 46, 2892, 4777, 6510
diseases—
bacterial, 2904
fungus, 178, 6478, 6539
general, 6537
non-parasitic—*see also below*, nutrition, molybdenum—773
virus, 6538
economics, 2880
flower(s)—
biology, 4795
bud initiation, 6529
curd solidity, inheritance of, 4792
male sterility, 4774
growing under glass or plastic, 2312, 4737
growing in various countries, 784, 825, 6518, 6527
growth substance responses, 68, 794, 4763, 4798, 5869
harvesting, 2873, 2888, 6506, 6531
mitochondria, 43
nutrition—
manganese, 2891
manuring and major elements, 194, 777, 2365, 2850, 2880, 2890, 4797, 6491, 6492
molybdenum 2851, 6493, 6528
sewage sludge injury, 2850
nutritional value, 4777
packing, 4799, 4800
parthenocarpy, natural, 4795
pests, hares, 160
pests, insects, 177, 853, 858, 859, 2279, 2911, 2912, 4813, 4815, 6500
physiology—*see also above*, climate—43, 2887
plant residues, toxins in, 4751
planting—
dates, 177
methods, 840
spacing, 177, 2889, 2890
pollination, 4795, 4796
propagation, vegetative, 4794, 4795
research in various countries, 2347, 2364, 4228, 5967, 5971, 6471, 6473
seed—
germination, 791, 4751
production, 794, 4796, 6530
sowing dates, 832, 2887, 2888
sowing, direct, 4776
treatments, 2904, 4805, 6478
Cauliflower (*continued*)—
soil management—
fumigation or sterilization, 4805
heating, 2846, 2847
irrigation, 773, 2890
rotations and toxic plant residues, 4751
weed control, 178, 4128
spray residues, 4151
storage and hydrocooling, 68, 4763, 4773, 4798-4800
varieties, 774, 778, 783, 837-839, 2350, 2359, 2840, 4793, 6477, 6524, 6526
whiptail—*see above*, diseases, non-parasitic, *and* nutrition, molybdenum
Cavariella aegopodii, 5975, 6499
Cawthron Inst., N.Z., A.R., 2339
Ceanothus spp., composition, root bark, 1514
Ceanothus spp., pollen germination, 2255
Cecropia peltata, 3527
Cedar, weed control in nurseries, 3209, 3350
Cedrella toona, 5541
Ceiba pentandra—*see* Kapok
Celeriac—
breeding and selection, 4822
diseases, 4822
harvesting, 2873, 6506
nutrition, 2346, 4822
seed production and sowing dates, 4822
soil management, weed control, 88, 6473
storage, 4822
varieties, 873
Celerio lineata, 4702
Celery—
blanching, 866, 5971
composition, 866, 4819, 6510, 6548, 6551
diseases—
fungus, 868-870, 2913, 4820, 4821, 6549, 6550
general, 5976
non-parasitic, 867, 4817
growing in various countries, 779, 864, 865, 6545
growth rate, 4817
growth substance responses, 4763, 6547, 6548
herbicide responses, 4818, 6484
nutrition—
foliar, 867
manuring and major elements, 5953, 6491, 6546, 6548
minor elements, 867, 2336, 6546
salt tolerance, 796
packing, 872
pests, insects, 4996, 6500, 6502
pests, nematodes, 871, 4760
physiology, respiration, 2236
products and by-products, 6551
research in Great Britain, 6471
seed storage, 787, 6549
seed treatment, 2347
soil—
management, fumigation, 870
management, weed control, 800, 2273, 4758, 6484, 6489, 6706

Celery—soil (*continued*)—
requirements, 6546
spray injury, 2913
spray residues, 2914
storage, 872, 4763, 6507
varieties, 2350, 2370
Cell(s)—
damage by pests, 1559
division, factors affecting, 298, 352, 4114, 4127, 5833, 6908
numbers in leaf primordia, determination of, 120
sap concentration, frost hardiness in relation to, 2169
sap concentration, soil moisture and irrigation needs in relation to, 890
separation, chelates for, 119
size, factors affecting, 298, 4114
wall breakdown, enzymatic, 4108
wall structure, chemistry and physiology, 2486, 4100, 4218
Cellophane bags for flower and fruit storage, 1160, 2538
Cellulose, horticultural uses, 4045
Cellulose, plant sources, 6285
Celosia spp.—
light responses, 1190
salt tolerance, 3197
seedling production, 1190
Centaurea spp., light and temperature responses, 5379
Centrosema plumari, 5407, 7163
Cephaleuros sp., on papaws, 3918
Cephalosporium—
chrysanthemi, 1189
sacchari, 7522
sp., on vines, 2751
Cephalotaxus spp., propagation, 6798
Ceramic granules, as a growth medium, 29
Cerastium—
nutans, 6895
viscosum, 3215
vulgatum, 6895
Cerataphis ceretoniae, 1890
Ceratitis capitata, 188, 732, 733, 1740, 1741, 2267, 2785, 2788, 3652, 4686, 5652
Ceratitis rosa, 4686
Ceratocystis—
fimbriata, 1928, 4639, 5605, 5741, 5984, 6707, 7387
paradoxa, 1889, 5680, 7376
ulmi, 6707
Ceratonia siliqua—*see* Carob
Ceratophyllum sp. (hornwort), as a vegetable, 796
Ceratostomella fimbriata and *C. paradoxa*—*see Ceratocystis*
Cerbera spp., glycosides, 7119
Cercospora—
antirrhini, 1186
apii, 868, 4820
bertholletiae, 2158
carthami, 1622
Cercospora (*continued*)—
fusca, 4652, 6375, 6376
handelii, 1294, 6798
köpkei, 5741
musae—*see* Banana diseases, fungus, leaf spot
nicotianae, 1450, 5313, 5979, 7059
spp., unspecified, 193, 5362
thujina, 1276
zinniae, 5313
Cereus jemacaru, 1257
Cerococcus catenarius, 5654
Ceroplastes—
brevicauda, 7450
destructor, 7276
spp., on ornamentals, 1315
Certification schemes for plant material, 85, 4213
Cestrum parqui, 7126
Cetonia spp., on roses, 3374
Ceuthorhynchus—
quadridens, 5349
spp., on cabbages, 4812
suturalis, 87
Ceylon—
Coconut Res. Inst., A.R., 7392
Dir. Agric., Administ. A.R., 5979
flower growing in, 1149
Rubber Res. Inst., A.R., 2007
Tea Res. Inst., A.R., 2105
Chaenomeles spp.—
propagation by grafting, 5113
research in Holland, 6798
varieties, 1324, 1325
Chaetomium spp., on mushroom beds, 3036, 6670
Chamaecyparis spp.—
diseases, 1294, 6920
propagation, 1294, 6798
in the U.S.A., 3351
weed control, 3350
Chamomile composition, 1508, 3525
Chamomile growing in Belgium, 2347
Chasmanthe floribunda, 5171
Cheimatobia brumata—*see Operophtera*
Chelates—*see also separate elements*—
formation in hard water, 4080
naturally occurring, in tobacco plants, 1422
in plant nutrition, 25, 587, 624, 1095, 5472, 5778
protoplasts affected by, 4118
salt tolerance increased by, 3367
for tissue maceration, 119
translocation in plants, 25, 5466
Chelonus striatigena, 5557
Chenopodium—
ambrosioides, 5395, 7153
quinoa, as a source of protein, 1148
spp., essential oils, 5395
spp., as virus indicators, 6337
Cherimoya propagation, 4216

Cherry—
breeding and selection, 219, 2351, 2414, 5968, 5999
climate, spring frost injury, 2450
climate, winter hardiness and injury, 2416, 2450, 4368, 6044
composition—
fruit, 4401
leaf, 316, 624, 2472, 4578, 5921
root, shoot and branch, 316
wood, 2478
diseases—
bacterial, canker, die-back and leaf spot (*Pseudomonas* spp.), 2727, 4629
bacterial, crown gall, 6765
cause uncertain, 6312, 6313
fungus—
black knot (*Dibotryon morbosum*), 663
blossom blight and brown rot (*Sclerotinia laxa* and *S. fructicola*), 180, 2503, 4629
die-back (*Valsa*(*Cytospora*) *leucostoma*), 4629
fruit rot (*Rhizopus stolonifer*), 2529
leaf spot or anthracnose (*Higginsia* (*Coccomyces*) spp.), 4630, 4631, 5914, 5990, 6360, 6369
virus, 87, 621-625, 2711-2717, 4213, 4576, 4586-4588, 6324-6326, 6331
economics, 2694
flower bud initiation and development, 4386
flowering, time of, 4556
fruit—*see also above*, composition, *and below*, harvesting, packing *and* storage—
drop, 372
enzyme activity, 384
metaxenia in, 354
parthenocarpic, 4386
respiration, 4394
ripening, 381, 4401
scald damage, 6117
set, factors affecting, 4368
size, factors affecting, 624
yield variation, 5991
growing in various countries, 217, 2381, 5997
growth, physiological dwarfing, 6076
growth, stem height affects, 2444, 4367
harvesting—
injuries to fruit during, 393, 6138, 6140
methods, 393, 2528, 5956, 6137-6140
time of, 2528, 4401, 6139
herbicide injury, 278
leaf composition—*see above*, composition
nomenclature, 6012
nutrition—
foliar, 316
manuring and major elements, 304, 2336, 2472, 2473, 4350, 5834, 6139
minor elements, 316, 624, 6765
origin, 6012
packing, 4411
pests—
aphids, 2771
Cherry—pests (*continued*)—
birds, 2823
eastern tent caterpillar (*Malacosoma americanum*), 6796
fruit flies (*Rhagoletis* spp.), 2692, 2789, 4568, 6420
leaf miner (*Lyonetia clerkella*), 739, 6435
mites, 2771, 4664, 6407
moth (*Enarmonia woeberiana*), 6438
nematodes, 690
sawflies (various species), 2834
scale (*Diaspis pentagona*), 759
slugworms (*Caliroa* spp.), 4706
tortrix moths (various species), 2801, 2802
physiology—
enzyme activity, 384
growth substance responses, 2191, 4386, 6076
respiration, 4394, 4588
vitamin responses, 2191
-plum—*see Prunus cerasifera*
pollen germination, fungicides affect, 2503
pollination, 354, 4384, 4385, 4556
propagation—*see also below*, seed—
budwood sources in North America, 2442
budwood sources, virus-tested, 4213
by cuttings, 255, 256, 2191, 3203, 6798
by grafting and budding, 257
by layering or stooling, 4293
pruning and training, 343, 2498, 4368, 4369, 6044, 6094, 6139
research in the U.S.A., 2359, 5977
root histology, 163
root systems, 4350
rootstocks—
East Malling, 255, 4293
histology, 163
mahaleb, 621, 2443, 2716, 4294
mazzard or sweet cherry (*Prunus avium*), 621, 2443, 4295
sour cherry (*Prunus cerasus*), 6044
in various countries, 2390, 2393, 4274
virus resistance, 2716
seed—
-bed management, 278
germination, 2439, 4292
treatment, 2439
virus detection in, 4586
soil—
compaction, 287
conservation, 2472
management, cover crops and grass, 304, 2472
management, weed control, 278
spray—
injury, 4723
programme and costs, 2694
residues, 4153, 5914, 6463
storage and transport, 2347, 6118
varieties, 213, 221, 222, 2354, 2387-2390, 2393, 4254, 4265, 4294, 4384, 4385, 4556, 5955, 6001, 6013-6015
Chervil, weed control, 2347, 6488

Chestnut—
breeding and selection, 589
Chinese water- —*see Eleocharis*
composition, nut, 2684
diseases—
fungus, bark canker or blight (*Endothia parasitica*), 588, 589, 6298
fungus, ink disease (*Phytophthora* spp.), 588, 667, 4216
varietal resistance, 588, 589, 6298
nutrition, 6295
propagation, vegetative, 6290, 6296, 6297
rootstocks, 6298
storage, 2684
tissue culture, 588
varieties, 6295, 6297
Chickweed—*see Stellaria media and Cerastium vulgatum*
Chicle, plant sources and extraction, 7182
Chicory—
bolting, 1477, 6657-6659
breeding and selection, 2344, 4945
composition, 6657-6659
diseases and disorders, 986, 3026, 6657, 6658 6661
flower biology, 1478
forcing, 985, 2344, 3025, 4944, 4945, 6655, 6656, 6660
growing in various countries, 784, 1476
nutrition, 986, 6658, 6659
pests, 87, 987, 988, 3027, 3028, 6663
planting, spacing, 1477, 5344, 6657
pollination, 1478
red—*see* Treviso "radish"
research in various countries, 2347, 6473
root—
characters, 6657, 6658
defects, 6659
drying, 1476
storage, 5960
yields, factors affecting, 5344
seed—
characters, 6653
germination, 1478, 2843
testing, 6654
soil—
heating, 6656
management, weed control, 88, 2854
types, 6661
variegated—*see* Castelfranco "radish"
varieties, 2365, 3024, 6657, 6658, 6660
vernalization, 985, 4945
Chikoo—*see* Sapodilla
Chilli—*see under* Capsicum
Chilling requirements of tree fruits—*see under* Dormancy in woody plants *and under* Temperature
Chilomenes sexmaculatus, 3725
Chimaeras—*see under* Mutations
China, crops, 506, 5515
China grass—*see* Ramie
Chinese—
cabbage—*see Cabbage*
Chinese (*continued*)—
gooseberry (*Actinidia chinensis* (*sinensis*)), 472, 2336
water-chestnut—*see Eleocharis*
Chionaspis citri, 7277
Chionodoxa bulb production, 1207
Chionodoxa spp., ornamental, 3300
Chive composition, 2861
Chive diseases, 4233
Chlorella spp., culture for human consumption, 28, 7201
Chloride—*see also* Salts—
determination, 7268
as a plant nutrient, 1397, 3445, 4018, 5270
plants injured by, 459
uptake and translocation, 459, 1309
Chloridium musae, 3808
Chlorine content of plants, factors affecting, 1044, 1394, 2959, 3637, 5272
Chlorine, radioactive, 2678, 7156
Chlorogenic acid and related compounds in plants, 1942, 2544, 4355, 5297, 5298, 5431, 7046
Chlorogenic acid as a virus inhibitor, 5975
Chlorophyll—*see also* Pigments—
biosynthesis, 2177, 4091, 4092
breakdown, 4745
content of—
fruits, 3158, 6122
leaves, disease resistance in relation to, 4485
leaves, factors affecting, 38, 78, 323, 866, 959, 960, 2763, 2966, 3449, 3573, 3707, 5022, 5281, 5846, 5898, 5960, 7247
plants, factors affecting, 1727, 5301, 5875, 6548
seeds, factors affecting, 4916
extraction, 4165
-vitamin K ratio, 4097
Chloroplasts, 45, 156, 1421, 4093, 4094, 4767, 5057, 5285, 5843-5845, 6714
Chlorosis—*see also* Iron *and individual plants under* diseases, non-parasitic, *and* nutrition—
lime-induced, 168, 316, 2674, 3372, 5990, 6270, 7244
plant composition in relation to, 303, 2471, 6900
various causes of, 315, 2177, 2178, 2354, 4334, 5146, 6900
Chortophila—see Hylemyia
Christmas tree production, 1269, 1270, 6917, 6919
Chromaphis juglandicola, 723
Chromatographic methods as an aid to taxonomy, 813
Chromatographic methods in plant chemistry, 1410, 2297, 3575, 3609, 5430, 7037
Chromium in plant nutrition, 569, 2464
Chrysanthemum—
antibiotic responses, 2276
a book on, 5121
cinerariaefolium—see Pyrethrum

Chrysanthemum (*continued*)—
composition, 45, 1183, 6824
diseases—
bacterial, 1185
cause uncertain, 1183, 1184
fungus, 158, 1186-1189, 2273, 3234, 3237, 5129
virus, 87, 2345, 3190, 3234, 4173, 5128, 6825-6828
economics, 776
flower(s)—
bud initiation and development, 1616, 3232, 5127
cut, prolonging life of, 164
cut, storage, 1160
flowering, factors affecting, 1176, 1181, 1182, 3232, 4175, 5124-5126
growing—
in Great Britain, 1173
in peat, 3195
under plastic, 142
as pot plants, 3231
year-round, 6820
growth substances, endogenous, 5127
growth substances, responses, 61, 1181, 1182, 2350, 3233, 5126, 5127
nutrition, 1179, 2276, 2345, 4221, 5123, 5830, 6799
pests—
insects, 2342, 5130, 5131, 5964, 6829
mites, 5130
nematodes, 3235
physiology, photoperiodic and other light responses, 158, 178, 776, 1176-1178, 1616, 3231, 3232, 4175, 5124-5126, 6821
physiology, respiration, 4098
pinching, 1182
plant storage, 1160
planting material, heat treatment, 3234, 3235
planting methods, 158, 179, 1175
pots for, 5820
propagation by cuttings, 3190, 3234, 5112, 6799
research in Great Britain, 166, 4229, 5969
soil—
composts, 6822
management—
fumigation and sterilization, 3180
mulching, 6823
weed control, 1180, 3212
spray equipment, 3236
varieties, 166, 776, 1174, 1189, 2343, 2348, 2359, 3190, 3229-3231, 5122, 5129, 6819, 6821
Chrysobothris femorata, 725
Chrysomphalus aonidum, 1749, 1750, 7274
Chrysomphalus ficus, 5487
Cicadas, control, 2783
Cider apple—
growing in Great Britain, 214
varieties—*see* Apple, varieties
research in Great Britain, 176
Cimicifuga dahurica, 5849, 7127
Cinchona pests, 5539
Cinchona propagation, 1515
Cineraria—
nutrition, 3196
physiology, 5841
varieties, 2343
Cinnamic acid in plants, 1541
Cinnamomum—*see also* Essential oils—
cassia, 3519, 5396
laurerii, 1556
tamala, 1556
zeylanicum, 1557, 5396
Cissus quadrangularis, 1516
Citric acid content of plants, 5023
Citric acid metabolism, 5196
Citronella—*see Cymbopogon*
Citropsis gilletiana, 1738, 7262, 7266
Citropsis schweinfurthii, 1738
Citrullus vulgaris—*see* Water-melon
Citrus—
breeding and selection, 1662, 3661, 7249, 7263
by-products—*see below*, products
climate—
air pollution, 3679
frost—
damage, 3674, 5456
leaf temperature changes during, 3672
protection by heaters and/or fans, 1684, 3676, 3677, 4299, 7226
protection by inducing dormancy with MH, 1685
resistance—
factors affecting, 1683, 1685, 3673, 3675, 5454
of species, 1683
tests for, 3671
micro-, 1682, 5455, 5538, 7225
rainfall, 5507
temperature responses, 1686, 1772, 2449, 3680, 3681, 5454, 5507-5509
composition—
fruit—
analytical methods, 3742, 5512
calamondin, 1778
factors affecting—
nutrition and water supply, 1697, 1699, 3702, 5507, 7228, 7241, 7242
rootstocks, 1671, 5507
various, 1712, 1763, 1772, 1773, 3740, 3741, 5507-5509, 7276, 7282, 7287
general, 7299
grapefruit, 3743, 7228
lemon, 1777, 7254, 7282, 7287, 7302, 7340
mandarin, 3695, 5511
orange, 1671, 1697, 1772, 1775, 1776, 3694, 3702, 3740, 3741, 5508-5510, 7239, 7283, 7340
various species, 1818
leaf—
factors affecting, nutrition—*see below*, nutrition

Citrus—composition—leaf (*continued*)—
factors affecting, various, 1737, 3699, 3718, 4351, 7230, 7231, 7237
general, 6824
grapefruit, 1702, 3693, 3707, 3718, 5463, 7240
lemon, 3707
mandarin, 1707
orange, 1701, 1707, 3699, 3702, 3707, 3718, 4351, 7237
plant, 3702, 5478
root, 2462
seed, 7254, 7303
congress in Argentina, 3652
diseases—
bacterial, blast (*Pseudomonas syringae*), 1726
bacterial, canker (*Xanthomonas citri*), 3712
cause uncertain—
bud union disorders, 7222, 7223
die-back—*see below*, non-parasitic
granulation, 1773
Idemor condition, 7257
lime blotch, 7257
skin hardening, 7256
stunting, 1717
fungus—
albinism (*Alternaria tenuis*), 1727
black spot (*Guignardia citricarpa*), 170, 3713, 7276
blue and green moulds (*Penicillium* spp.), 1769, 1770, 2365, 3736, 3737, 4424, 5498-5501, 6497, 7292, 7293
damping-off or black leg (various organisms), 3719, 7262
ferment gum disease (pathogen unspecified), 1729
fruit storage rots, general, 170, 188, 1760, 1761, 3715, 3736, 5494, 7288, 7291, 7298
gummosis, tip blight, root rot and brown rot (*Phytophthora* spp.), 3645, 3732-3734, 7263
leaf spot (*Alternaria* and *Colletotrichum* spp.), 5477
mal secco (*Deuterophoma tracheiphila*), 3714, 5478
melanose (*Diaporthe* (*Phomopsis*) spp.), 1728
scab (*Elsinoë* and *Sphaceloma* spp.), 1728, 5479
sooty mould (*Capnodium citri*, etc.), 1761
general, in various countries, 90, 1716, 3656, 4236, 5474, 7265
non-parasitic—
chloroses—*see also below*, nutrition, iron, zinc, etc.—3690, 3697, 5472, 7255
die-back, 3680
exanthema, 5465
puffiness, 3652
red blotch of lemon, 5496
Citrus—diseases—non-parasitic (*continued*)—
rind-oil spot, 3729
virus—
general, 2267
infectious variegation, 1721
psorosis, 1720, 3708, 7257-7259
scalybutt or exocortis, 170, 1718, 1719, 3666, 5475, 7257, 7258
seedling yellows, 1724
stubborn disease, 7258, 7260
tristeza or stem-pitting, 1722-1724, 3652, 3699, 3709, 3710, 5476, 7257, 7261
vein enation, 3711
woody gall, 1725
xyloporosis, cachexia, little leaf or fovea, 7257, 7258
economics, 1757, 3658, 3659, 3685, 7217, 7297
flower(s)—
biology, 5470
bud initiation and development, 3664, 5468-5470, 7248, 7276
nectar secretion, 1713
structure, abnormal, 5468
thinning, 1712
flowering, factors affecting, 3664
frost—*see above*, climate
fruit—*see also above*, composition, *and below*, harvesting, marketing, packing, products *and* storage—
characters, factors affecting, 1699
colour, factors affecting, 1763, 1772, 3693, 5455, 5508, 5538, 7240, 7275
colour, quality in relation to, 7283
degreening without treatment, 7298
drop, growth substances affect, 1756, 3705, 3706, 5471
drop, various factors affecting, 3690
enzymes, 1775
freezing point, 5456
fumigation, 1740, 1768, 7290, 7292
granulation, 1773
growth, morphological aspects, 5473
growth rate, factors affecting, 7282
heat treatment for pest and disease control, 1740, 3732-3734
injury—
causes of, 3729, 5503, 7290
detection of, 5502
storage diseases in relation to, 5498
internal atmosphere, 7289
maturity, factors affecting, 7282, 7340
parthenocarpic, 1711, 1713, 1714
peel, volatile constituents of, 1776
quality—
colour tests for, 7283
factors affecting, nutrition, 3690, 3692, 3702, 7238
factors affecting, rootstocks, 1671
respiration, 5502
russeting, 7272
set, factors affecting, 1711-1714, 3704, 5470, 5471, 7248

Citrus—fruit (*continued*)—
size, factors affecting—
growth substances, 1711, 1713, 3705, 5472
nutrition, 1701, 1707, 3693, 7240
various, 1699, 1714, 3704, 5487
thinning, 3704
tissue culture, 7253, 7254
washing and cleaning, 5493, 7290
yield data, 3739
fruiting, biennial, 3690, 3704, 5469
fumigation—*see also above*, fruit, *and below*, soil management—tree, 1752
grading—*see below under* packing
growing in—*see also below*, research *and* varieties—
Aden, 3656
Australia, 3653
Central America, 7296
Europe, 3654, 3657, 5505, 7213-7215
Ghana, 1651
Israel, 5442, 7214
North Africa, 3655
South Africa, 1653
South America, 1650, 3652
the U.S.A., 5505, 7216
the U.S.S.R., 7219
growth—*see also below*, physiology—
dormancy, 1685, 5454
fruit—*see above*, fruit
rhythms or phases, 1686, 1687, 3702, 5468
root—*see below*, root
shoot, apex shedding, 7246
shoot, harvest date affects, 5469
-substances, endogenous, 47, 3675
-substances responses—*see also above*, fruit—194, 1685, 1711-1713, 3678, 3680, 3705, 7247, 7250
harvesting, 1757-1761, 3728-3731, 5469, 5493, 7284, 7285, 7296
herbicide responses, 1681
ichangensis, 1710, 3661
interstocks, 1673
junos, 1673, 3661
leaf—*see also above*, composition—
colour, factors affecting, 3707
drop, prevention, 3705
oil, essential, 3657
temperature, 3672, 7227
macrophylla, 1668
marketing—*see also below*, transport—1766, 5504, 5505, 6113, 7296, 7297
mitis, 1778
mutations, 194, 1661, 3670, 7255
nutrition—
arsenic, 7242
boron, 19, 3692, 7230, 7231
calcium, 1703, 3687, 3690, 3696
chlorides, 7230
cobalt, 1704
Citrus—nutrition (*continued*)—
copper, 1704, 1706, 1707, 1737, 3699, 5464, 5465, 7236
foliar, 1697, 1705-1707, 3701, 5464, 7236, 7242, 7245
by injection, 1707
iron, 25, 1704, 1706, 1708, 3697, 7244
leaf and soil analyses as guides to, 1694, 1695, 1701-1703, 5463
lithium toxicity, 3700
magnesium, 1703, 1705, 3690, 3692, 3696, 3698, 5472, 7243
manganese, 1704, 1705, 1709, 3697, 3701, 7236, 7245
manuring—
general, 1674, 1696, 5507, 7267
of lemons, 5462
of oranges, 5461, 7236
timing, 7236
of weather-damaged trees, 1688
nitrogen, 1698-1701, 1709, 3667, 3690-3695, 3702, 3718, 5462, 7238-7242, 7245
phosphorus, 3690, 3691, 3697, 3702, 5462
potassium, 1702, 3690, 3692, 3696, 3718, 5463
sodium and salt tolerance, 1737, 3697, 7229, 7230
sulphur and sulphates, 7230, 7231
zinc, 1704-1706, 1737, 3692, 3697, 3698, 3701, 3713, 5464, 7236, 7245
packing—*see also below*, storage—
containers—
boxes and cartons, 1766, 5503
linings and pads for, 5503
packaging bags, 1765, 1766, 3738, 7288, 7289
costs, 7297
house contamination and disinfection, 3735
methods, 5493, 7286
washing and cleaning, 5493, 7290
pests—
aphids, 1739, 3721
control, biological and ecological—*see also below*, scales, general—3725, 5480
control, general, 2367, 4234, 5480-5482, 7264
fruit flies (*Anastrepha, Ceratitis* and other spp.), 733, 1740-1742, 1768, 3652
general, in various countries, 2377, 7264, 7265
gophers, 1755
leaf miners, 195, 4233
mealy bugs (*Pseudococcus* and *Planococcus* spp.), 1750, 3652, 7269
mites—
brevipalpus or flat (*B. australis* and *B. phoenicis*), 3723
broad or silver (*Hemitarsonemus latus*), 1738, 1745
general and unspecified, 3721, 3722, 5483

Citrus—pests—mites (*continued*)—
red or purple (*Panonychus* (*Metatetranychus*) *citri*), 767, 1743, 1744, 5486, 7270
rust or maori (*Phyllocoptruta oleivora*), 1743, 1746, 3652, 5483, 5484-5487, 7271, 7272
nematodes, 1730-1737, 3717-3720, 7262, 7267
peel miner (*Marmara salictella*), 1747
psylla (*Diaphorina citri* and *Spanioza erytreae*), 1748, 3721, 3725, 5488, 7273
rodents, 7281
scales—
arrowhead (*Unaspis yanonensis*), 857
chaff (*Parlatoria pergandii*), 7275
circular purple (*Chrysomphalus ficus*), 5487
cottony cushion (*Icerya purchasi*), 1749
florida red or egyptian black (*Chrysomphalus aonidum*), 1749, 1750, 7274
general—
control, biological, 5489-5491, 7274
control, chemical, 3721, 5489, 5491
removal after harvest, 7290
purple (*Lepidosaphes beckii*), 1749, 5491, 7274, 7275
red, (*Aonidiella aurantii*), 5490, 7276
Selenaspidus articulatus, 1749
snow (*Chionaspis citri*), 7277
soft brown (*Coccus hesperidum*), 3726
Unaspis citri, 1749
wax (*Ceroplastes* spp.), 7276
snails, 1754
thrips, orchid (*Anaphothrips orchidii*), 1738
tortrix moths, 5492, 7278
weevils (*Pachneus* and *Pantomorus* spp.), 1738
physiology—
carbon dioxide fixation, 1715
enzyme activity, 1775, 4351
gnotobiotic culture, 3717
nucleic acid metabolism, 4351
photoperiodism and other light responses, 1683, 1687, 5454
photosynthesis, 3679
respiration—*see also above*, fruit—2449
tissue culture, 31, 7253, 7254
translocation, 5466
water relations, 1689, 3681, 3682, 3696, 7227
planting—
establishment, growth substances improve, 194
in old citrus soils, 1675
spacing, 1674, 1676
pollination—
cross-, 1710, 1713, 3661, 7248, 7251
pollen germination, 5470, 5537, 7248, 7250
with pollen mixtures, 7249
production and trade—
in Australia, 3653
Citrus—production and trade (*continued*)—
in European and Mediterranean countries, 1652, 3654, 3655
in the U.S.A., 1654, 7216
world, 1655, 5504, 5505
products and by-products—
fodder or silage, 3657
juice—*see also above under* composition, fruit—1774, 3657
oil, essential, 3657, 3744, 5506, 5511, 7218, 7301, 7302
pectin, 3657, 7301
seed oil, 3745, 7303
various and general, 3657, 7300, 7304
wine, 3652
propagation—*see also below*, rootstocks *and* seed—
budding, 3664, 3665, 5450
cuttings, 1666, 1667
grafting, 4055
nursery and seed-bed management, 3652, 5447, 5450, 5536
top-working, 1661
pruning, 1676, 1677, 3703, 5467
research in—
Australia, 2370, 5963, 5976
British Guiana, 2362
Ceylon, 5979
Cyprus, 5980
Ecuador, 5984
India, 2364, 2371, 2372
Peru, 200
Sicily, 7214
South Africa, 5985
Spain, 4216
Surinam, 204, 2375, 4238
the U.S.A., 5959
Zanzibar, 5986
ringing, 1713, 1714
roots—
cation exchange capacity, 2462
growth and distribution, 1686, 1692, 1694, 1698, 1702
primordia, pre-formed, in shoots, 1666
rootstocks—*see also above*, interstocks *and* propagation—
Citropsis spp., 1738
Citrus spp. and hybrids, 1668, 5451, 7214, 7222
Cleopatra and other mandarins, 1672, 3666, 3680, 5453, 7223
disease resistance, 1668, 1722, 7214, 7262, 7263
drought resistance, 7224
dwarfing, 7221
fruit composition affected by—*see above*, composition, fruit, factors affecting
for grapefruit, 7221
for lemons, 1668, 3666, 7214, 7222, 7223
magnesium deficiency sensitivity, 7243
for mandarins, 3667
nutrient uptake affected by, 3699, 7231

Citrus—rootstocks (*continued*)—
for oranges, 1668, 1672, 3666, 3667, 3680, 3699, 5453, 7224
Persian lime, 3666, 3699
pest resistance, 1738, 7262, 7266
salt tolerance, 7230
for satsuma oranges, 1673
-scion incompatibility, 3666, 7222, 7223
-scion relationships, 1722, 3652, 3666, 3680, 5453
seedling growth, 5451
sour orange, 5447, 5451, 7224
sweet lime, 7224
sweet orange, 1671, 3666, 5453
trifoliate orange, 3666, 5475, 7221
in various countries, 1669, 1670, 3652, 3668, 5443, 5452, 7218
seed—
embryo culture, 31
germination and testing, 1664, 3663, 5446, 5451
nucellar embryo development, 1665
numbers, factors affecting, 1711, 7249
storage, 5445
treatments, 3663, 5445
soil—
aeration, 1708
compaction, 3682
flooding and waterlogging, 1688, 3652
management—
amendments and conditioners, 7267
cover cropping and grass sod, 5460, 5461
cultivation, 1674
fumigation, 7268
intercropping, 5460, 7232
irrigation, 1690-1693, 1700, 3682-3685, 3720, 4233, 5457, 5458, 5829, 7228-7231
methods compared, 1693, 1699
mulching, 1680, 1693, 3686, 3687, 5455, 5460, 5538 .
non-tillage, 5460
rotations, 1675
weed control—*see also above*, herbicide responses—1678-1681, 3652, 3688, 3689, 4311, 5448, 5449, 5455, 5459, 5538, 7233-7235, 7339
pH, 1708, 3693, 7240
salinity—*see above under* nutrition, chlorides *and* sodium
temperature, 1772, 5455, 5475, 5508, 5385
water determination, 1689
water infiltration, 1699
soilless culture of seedlings, 5447
species, classification and nomenclature, 1656, 1658, 2166, 3660
species, collections, 1657
spray(s)(ing)—
coverage, 1751
equipment and methods, 1751, 3716, 5480
oils, specifications, 3727
Citrus—spray(s)(ing) (*continued*)—
and other chemical injuries, 1271, 3180, 3713, 5471
and other chemical residues, 1753, 1771, 7252, 7268, 7279, 7280, 7294, 7295
programmes, 5484, 7264, 7270
storage—*see also above*, packing *and* seed—
buildings, design, 1767
chemical changes during, 5495, 7287
containers—*see above under* packing
cooling and pre-cooling, 1740, 1765, 5494, 7288
dips, coatings, wraps and impregnated pads, 170, 188, 1761, 1768, 1769, 1771, 3732-3734, 3737, 5495, 5501, 7252, 7288, 7291-7295
disorders, red blotch, 5496
ethylene for colouring, 1763, 1764
life, factors affecting, 2340, 3738
micro-flora on fruits in, 5497
rots—*see also above*, diseases, fungus—
gamma-ray treatment for, 4424
temperatures, 1763, 5494-5496, 7287
weight losses in, 1762, 1767
tachibana, 1673
taiwanica, 1668
transport—*see also above*, marketing—3647, 3731, 5503, 7298
varieties—*see also above*, growing, mutations *and* species and *individual Citrus species*—
citron, 7215, 7218
general—
collections, 1657, 3652
disease resistance, 5474, 5478
nucellar strains, 3652
in various countries, 3660, 5443, 5444, 7218
grapefruit, 3669
lemon, 1658, 3662, 7219, 7220
lime, 1659
orange, 213, 1660, 1661, 1774, 2388, 3652
pummelo, 1662, 1663
volkameriana, 7214
wilsonii, 3661
Cladosporium—
carpophilum—*see Fusicladium*
cucumerinum, 2918, 2944, 2945, 4859
fulvum—*see* Tomato diseases, fungus, leaf mould
herbarum, 6379
spp., unspecified, 2609, 3736, 6380
Clasterosporium carpophilum, 662
Clematis—
breeding, 1294
diseases, 1294, 6798
flower development, 1326
nutrition, 6949
potting composts, 1294, 6949
propagation, 3390
research in Holland, 6798
Clerodendron aculeatum, 3391
Clerodendron fragrans, 5841

Climate—*see also* Altitude, Drought, Frost, Hail, Humidity, Meteorology, Wind *and individual crops under* climate—
control in chambers or glasshouses—*see also* Phytotrons—118, 4177, 4178
dew or surface wetness measurements, 4185
micro- —
measurement, 4298
under plastic covers, 6481
on slopes, 1682
of sugar cane, 2097, 3955
of trees and bushes, 2122, 7225
of vineyards, 5963
phenological records in various countries, 2347, 2645, 6018
plant diseases and pests related to, 3593, 4613, 6647, 6650, 7552
plant and fruit composition affected by, 528, 1038, 4550, 4557, 5435
rain(fall)—
crop responses—
composition, 1407, 4396, 5435
fruit set, 4964
nutrition, 6614
quality, 528, 529, 1458, 4550
yield, 1916, 1992, 3956
damage to plants, 530
disease incidence in relation to, 4873
nutrients in, 363, 5627
nutrients leached from leaves by, 4340, 5734
protection of workers from, by plastic tents, 2303
recording, 4619
retention, soil cultivation methods for, 563
root responses, 2688
spray residues in relation to, 116, 5782
spray activity affected by, 6459
Clinodiplosis sp., on hops, 3581
Clitocybe tabescens, 4573
Clivia miniata, 1517
Cloches, crop cultivation under—*see also* Frames, Plastic films *and separate crops* —2310
Cloches, types, 177
Clove, cover crops for, 7110
Clove growing in various countries, 1479
Clover control in turf, 6895
Clubroot—*see Plasmodiophora brassicae*
Clusia rosea, 2160
Cnephasia incertana, 3581
Cob nut, hazel and filbert—*see also Corylus*—
a bibliography on, 6288
climate, spring frost injury, 4561
flower biology, 4561
growing in Europe, 4559, 4563
growth, rejuvenation, 591
growth substance responses, 590
pests, 703, 728
planting, 6299
pollen composition, 2254
pollination, 4561
production and trade, 4558, 6288, 6289
Cob nut, hazel and filbert (*continued*)—
propagation and rootstocks, 2685, 6290
seed germination and treatment, 590
varieties, 213, 221, 4560, 4563, 6299
yield forecasting, 592
Cobalt—
content of citrus soils, 1704
determination, 2300, 4162
in plant nutrition, 17, 569, 2464, 2673
radioactive—*see also* Gamma irradiation—7156
sources, 5347
Coccinella septempunctata, 3725
Coccomyces—see Higginsia
Cocculus hirsutus, 1518
Cocculus laurifolius, 1304
Coccus hesperidum, 3726, 6793, 6856
Coccus viridis, 1904, 1905, 3888
Cochlearia arctica, 3528
Cochlospermum angolanense, 5353
Cochylis ambiguella, 4216
Cockchafer—*see also separate species*—control, 3924
Cocoa Conference, London, Rep., 5565
Coconut—
breeding and selection, 1873-1876, 3839, 5623
climate, rainfall, 5627
composition, leaf, 1816, 4160, 7336, 7395
diseases—
cause uncertain—*see also below*, virus—1887, 1888, 3847, 3848, 5628, 7398-7400
fungus, 1889, 5631
general, 4239
nematodes implicated in—*see below*, pests, nematodes
virus—*see also above*, cause uncertain—1825, 3849, 5629, 5630, 7401
economics, 3854
flower abnormalities, 3846
fruit—*see below*, nut *and* seed
growing in various countries, 202, 1872, 3837
growth, abnormal, 3840
growth, phyllotaxy, 7394
machine for climbing, 3838, 7402
nurseries, 5536, 5624
nut—*see also below*, seed—
abnormalities, 3847
development, 7403
harvesting methods, 1895
milk(water), characteristics and uses, 1897
polyembryonic, 1877
nutrition, 190, 1885, 1986, 3842-3845, 3847, 5625, 7336, 7395-7397
pests—
borers (various species), 204, 4238, 5540, 5632, 5633
cockchafer (*Leucopholis coneophora*), 1892
of copra, 7404
coreid bugs (*Pseudotheraptus* spp.), 2268, 5986
general, in Kenya, 1890
nematodes, 1888, 3849, 3850

Coconut—pests (*continued*)—
rhinoceros beetles (*Oryctes* spp.), 197, 1891, 3851, 4236
Stephanitis typicus, 5630
termites, 3852
weevils (*Rhynchophorus* spp.), 3850
planting, replanting, 190
planting, spacing, 1986
pollen sterility, 1873
pollination, 7403
production and trade, 5417
products—
coir and coir dust, 205, 1570, 3855
copra, 1895, 3853, 3854, 5634, 7404
desiccated coconut, 7406, 7407
"flour" from shells, 5635
general, 1894
milk—*see above*, nut milk
oil, 205, 1887, 1893, 1896, 7405
propagation by marcotting, 1879, 1880
research in—
British Guiana, 2362
Ceylon, 7392
France and associated countries, 3914, 7335
India, 1871, 3836
Jamaica, 4234, 5622
the South Pacific, 2369
roots, aerial, 1879, 1880
roots, pressure, 1881
seed—*see also above*, nut—embryo culture, 7393
soil—
management—
cultivation, 190, 1883, 1884, 3841
green manuring, 1886
intercropping, 1051
irrigation, 3842
weed control, 7338
types and requirements, 1882
varieties and species, 190, 1873, 1878, 5623
Cocos weddeliana, 1307
Codiaeum variegatum, as a house plant, 1261, 6904
Codling moth (*Cydia pomonella*)—
control—
baits and traps for, 180, 2797, 2798, 4696
biological, 743, 744, 4695, 6429-6431
chemical, 152, 153, 742, 2765, 2770, 2794-2796, 4217, 4692-4694, 5909, 6427, 6428
supplementary measures, 156, 742
sampling for damage by, 715
time of emergence and warning services, 183, 2797, 2798, 4696, 6426
Coffea—*see also* Coffee—
arabica, 1898
canephora (robusta coffee), 7440
excelsa, 7436
lebruniana, 7414
spp.—
classification and taxonomy, 1910, 7414
hybrids, interspecific, 7413
Coffea—spp. (*continued*)—
in Madagascar, 1908
in Mauritius and Réunion, 1909
in West Africa, 7415
Coffee—
beans—*see also below*, processing *and* seed—
allergen in, 1942
composition, 1942, 3860, 3896, 5657, 5658, 7418, 7454, 7455
oil, 1941, 5657
pests and their control, 7457, 7458
quality, factors affecting, 1939, 1940
storage, 3896, 7457
a book on, 7408
breeding, selection and genetics, 1904, 1905, 3856-3859, 7416-7418, 7441, 7454
climate—
drought responses, 3877
frost or cold injury and protection, 3877, 5646, 5647
heat injury, 5648
rainfall responses, 1916
temperature responses, 3877
composition—
bean—*see above*, beans
cherry, 1906
leaf, 1816, 1918, 1919, 1924, 5638, 7336, 7431
plant, 5642
diseases—
cause uncertain—
crinkle leaf, 1926
die-back, 1920, 1937, 7439
stem pitting, 3881, 7437, 7438
stem strangulation, 5647
fungus—
berry disease and die-back (*Colletotrichum coffeanum*), 3882, 5649, 5650
damping-off (*Corticium solani*), 1912
leaf spot (*Omphalia flavida*), 3886, 5984
Monilia sp., 3891
rust (*Hemileia vastatrix*), 1904-1906, 1929, 1930, 2268, 3883-3885, 7441-7445
stem canker (*Ceratocystis fimbriata*), 1928
general, 5539
non-parasitic, 1925, 5647, 5648, 7440
virus, 1927
economics, 1900, 3873
field experiments, duration, 1907
flower biology, 3880
flowering time, factors affecting, 3877, 3879
fruit—
development, 7436
maturity, bean quality in relation to, 1939
set and drop, factors affecting, 3875
yields, rainfall in relation to, 1916
growing in—
Central Africa, 1901
Central America and the West Indies, 5636
East Africa, 1899, 2326
the Far East and the Pacific, 1900, 5637

Coffee—growing in (*continued*)—
South Africa, 1902
growth cycles and shoot anatomy, 3877
history, 1902, 7334
mutations, 5645
nutrition—
foliar, 1904, 1919, 1921, 5640-5643
manuring and major elements, 193, 1903, 1904, 1920, 3871, 3875, 3879, 5638-5642, 7425-7429, 7431
minor elements, 1921, 3876, 5643
plant and soil analysis as a guide to, 1918, 1919, 3874, 5638, 5639, 7336
shade in relation to, 7429
pests—
antestia bugs (*Antestiopsis* spp.), 3889, 7446, 7447
ants, 1935
berry borer (*Stephanoderes* (*Hypothenemus*) *hampei*), 5651, 7458
berry moth (*Prophantis smaragdina*), 1933, 7446
caterpillar (*Eacles magnifica*), 3890
control, biological, 1933
Epicpoptera spp., 5540
general, detection, 2212
general, in various countries, 2365, 5539, 5655
green bug (*Coccus viridis*), 1904, 1905, 3888
leaf miners (*Leucoptera* or *Melanagromyza* spp.), 1933, 3888, 7446
leaf skeletonizer (*Leucoplema dohertyi*), 1933
mealybugs (*Pseudococcus* and other spp.), 1904, 1934
nematodes, 1904, 1931, 1932, 3887
scale (*Asterolecanium* and other spp.), 5653, 5654, 7450
shot hole borer (*Xyleborus morstatti*), 1904, 1936, 3891, 7449
stem borer (*Bixadus sierricola*), 1905, 2366, 7448
thrips, 1937
tip borer moth (*Eucosma nereidopa*), 1906
Udonga montana, 7451
physiology—
caffeine and trigonelline biosynthesis, 1924, 5656
irradiation responses, 1857, 5645
sulphur translocation, 5642
transpiration, 1905
planting—
depth, 3868
methods, general, 1903, 7432
spacing, 7420
transplanting, 3864, 3865
pollen and pollination, 5644
processing—
air flotation of fruits and beans during, 3895
drying, 3893, 7455, 7456
fermentation and washing, 3893, 3894
Coffee—processing (*continued*)—
general, 5659
production and trade, 7409
products, non-beverage—*see also above*, beans, oil—205
propagation—
by cuttings, 1914, 3862, 3863, 7419
by grafting, 1903, 1915
nurseries, 5536, 5640
pruning and training, 1903, 3869, 3870, 7432, 7435
research in—
Central and South America, 200, 204, 2375, 4237, 5984
Ceylon, 5979
the Congo, 196, 1903
East Africa, 1906, 2268, 2376, 4231, 4232, 4239, 5986, 7410-7412
the Far East and South Pacific, 2369
India, 1904, 1905
Rhodesia/Nyasaland, 2368
root systems, 1917, 3877, 3878, 7433, 7434
rootstocks, 1915
seed—*see also above*, beans—
colour, pollen parent affects, 5644
and embryo development, 3880, 5645
germination, 1903, 1938
oil, 1941, 5657
sowing methods, 1912
treatment, 1857, 1912, 3861, 5645
virus transmission by, 1927
shade requirements and responses, 1920, 3867, 7420, 7429, 7455
shade trees and other plants, 3866, 3867, 7420
soil—
conservation, 1903
management—*see also above*, nutrition *and* shade—
cover crops and green manuring, 1903
cultivation, 1904, 1905, 3871, 3872, 3878, 7424
intercropping, 7421
irrigation, 1906, 3879, 7433, 7438
mulching, 1906, 3871, 3878, 7438
weed control, 1905, 1913, 1922, 1923, 3873, 5538, 7339, 7422, 7423
nitrate movement in, 7430
sprays and dusts—
deposits and their persistence, 4136, 7452, 7453
injury, 1938, 3888
machines for applying, 3892
tainting effects of, 1923, 3888
varieties—
Caturra, 1911
clonal robusta, 5638
cold hardiness, 5646
disease resistance, 3885, 7417, 7441
seedling arabica, 3857-3860, 5657
seedling excelsa, 7436
in various countries, 3860, 7415-7417
as a windbreak, 5583

Coimbatore Sugarcane Breeding Inst., A.R., 3942
Cola spp.—
in the Central African Republic, 5791
pests, 5539, 7565
propagation, 5536
research in Nigeria, 2366, 2367
Colchicine—
plant sources, 3524
treatment of—
fruit and plantation crops, 224, 237, 2350, 2615, 5543
ornamental plants, 1294, 3243, 3348, 6798, 6858
various crops, 164, 1405, 1487
vegetables, 2870, 5007
Colchicum spp.—
corm treatment, 1211
diseases, 1211
ornamental and medicinal, 3300, 6861
Cold injury to plants—*see* Frost *and* Temperature, low
Coleus—
diseases, 5902
growth—
of apical meristem, 6908
-substances, endogenous, 53, 4116, 5882
-substances, responses, 1155
leaf abscission, 4116
nutrition, 20
physiology, 111, 4098, 5838
propagation by cuttings, 20
soil fumigation, 3180
spray injury, 3180
Collard—*see under* Kale
Colletotrichum—
camelliae, 5763
coffeanum, 3882, 5649, 5650
falcatum—*see Physalospora tucumanensis*
fuscum, 5375
gloeosporioides—*see also Glomerella cingulata*—5477
guaranicola, 3629
lagenarium, 908, 2941, 2942, 4855
lindemuthianum, 936, 4889
phomoides, 3176, 6779
spp., unspecified, 2943
Collybia velutipes, 4957
Colocasia spp., composition, 46
Colombia, crops, 1779
Columnea banksii, 3240
Composts—*see also* Mushroom *and* Soil, potting—
arcillite used in, 6939
Bellozanne, 5967
from cacao waste, 6473
from hop vines, 3599
John Innes and other standard mixtures, 460, 777, 1294, 1342, 2193, 2194, 3282, 4063
loamless, 2336, 2345, 3128, 3339, 4062, 5182, 5822
from mushroom beds, 2850
peat used in—*see* Peat
Composts (*continued*)—
perlite used in, 6939
sawdust used in, 6822
from sewage, 2850
sterilization or fumigation, 3180, 5823
from straw, 2850
from town wastes, 1307, 2670, 4539, 6264, 6473
from vegetable refuse, 6495
Conchylidia implicitana, 6829
Congo, crops, 3408
Congo, I.N.É.A.C., A.R., 196
Conifers—*see also* Trees and shrubs, Christmas trees *and separate species*—
diseases, 6918
herbicide injury, 6808
nutrition, 1269
planting, 5803
propagation by cuttings, 3206
weed control, 6798, 6808
Coniothyrium piricolum, 6447, 6448
Conium maculatum, 7128
Conoderus vespertinus, 1446
Conotrachelus nenuphar, 715, 4217, 4684, 4685
Containers for packing produce—*see* Packing
Containers for raising plants—*see under* Nursery stock
Contarinia—
pisi, 2999
pyrivora, 2791
spp., unspecified, 3997
virginianiae, 4672
Convallaria majalis—*see* Lily-of-the-valley
Convolvulus spp., weed—*see* Bindweed
Copal, plant source, 5353
Copernicia cerifera, 5430
Copper—*see also* Fungicides—
accumulation in soils, 762
application, foliar, 24, 587, 1707, 1827, 2464 4607, 5464, 6729
application, trunk injection, 1707, 4607
content of plants, factors affecting, 1637, 1737, 3699, 4607, 7489
deficiency, physiological effects, 17
deficiency symptoms, 1707, 2065, 4068, 4547, 5465, 6710
determination, 2300, 2301
disease resistance affected by, 1827, 2744, 3699, 4607
enzyme activity in relation to, 5831
interrelationships with other elements, 4607, 5595
latex production in hevea affected by—*see under* Hevea, latex stimulation
nutrition of—
fruit and nut trees, deciduous, 587, 2464, 4607
fruit and plantation crops, evergreen—*see also* Citrus nutrition—2065, 3794, 3829, 3874, 3876, 3913, 4018, 5595, 5668
mustard, 5347
small fruits and vines, 467, 2744, 4547
vegetables, 24, 1036, 4999, 5831, 6659

Copper (*continued*)—
pigment content of leaves affected by, 24
sources, 587, 4999, 5347, 5778
toxicity, 17, 3597, 4068
Copra—*see* Coconut products
Copturus aguacatae, 1643
Cordana musae, 3789, 7363
Cordyline terminalis, 6904
Coriander—
composition, 1474
diseases, 1480
growing as an intercrop in sugar cane, 3511
oil, 1474
pests, 7109
pollination, 1481
varieties, 1473, 1480
Cork oak (*Quercus suber*), 1629
Cornell Univ. agric. Exp. Stat., A.R., 154, 5962
Corn-salad (*Valerianella olitoria*) composition, 3029
Cornus spp.—
edible, 5988
growth substances, responses, 1310
ornamental, 5235
propagation, vegetative, 1294, 1302, 2446, 6798, 6801
seed treatment, 6043
Coronilla emerus, 6338
Corthylus sp., on pear, 5984
Corticium solani, 87, 804, 850, 909, 1188, 1912, 2140, 2863, 3328, 3329, 3360, 3815, 5345, 6384, 6575, 6594, 6595, 6779, 6798, 6848, 7400
Cortisone, plant sources of, 5370, 5378
Corydalis govaniana, 1519
Corylus spp.—*see also* Cob nut—propagation, 3203
Corynebacterium—
betae, 773, 803
michiganense, 1123, 2858, 3164, 6766
poinsettiae, 6925
Corypha umbraculifera, 7195
Corythucha gossypii, 3915
Cosmopolites sordidus—*see* Banana, pests, borer
Cosmos, temperature responses, 2231, 3241
Costs—*see under* Economics
Cotinus—*see under Rhus*
Cotoneaster—
breeding, 1294
propagation by cuttings, 5236, 6802
research in Holland, 6798
Couch grass—*see Agropyron*, *Cynodon* and *Panicum* spp., *and* Crabgrass
Coumarin compounds in plants, 1334, 3091, 6707
Cover crops—
for crops—
deciduous fruit and nut trees—*see also* Apple *under* soil management—304, 2347, 2378, 2472, 4309, 4324, 6053, 6068
hops, 5411
Cover crops—for crops (*continued*)—
tropical and sub-tropical—*see also* Tea, soil management—1886, 1903, 3924, 3927, 5460, 5461, 7485, 7486
vines—*see* Vine, soil management
disease spread reduced by, 5411
frost relationships, 4309
for green manuring, 1375, 1381, 1886, 2066, 2067, 2130, 2458, 3429, 3536, 3586, 4308, 4541, 5461, 5970, 6051
and nematode control, 807
plants—
grass and clover swards, 292, 4307, 4308, 4324, 5411, 6050, 6052, 6068
legumes, 568, 1886, 1903, 2066, 2067, 2130, 2131, 5460, 6050, 7110, 7486
various, 2458, 3536, 3586, 6050, 6053
soil water utilization by, 7110
Crabgrass (*Digitaria* spp.) and its control, 1248, 1922, 3326, 3577, 3873, 3977, 4013, 5190, 5191, 6895-6899
Crambe abyssinica, 3615, 7192
Crambe katschyana, 7202
Cranberry—
climate, frost damage, 2590
diseases, 673, 2269
fruit colour and pigments, 478
nutrition, 478, 673
pests, 2808
research in the U.S.A., 2359, 5970
soil management, weed control, 2460, 5890, 5977, 6198
spray residues, 4152
spray responses, 478, 2590
storage, 2269
varieties, 477, 6197
Crassulaceae, taxonomy, 4167
Crataegus spp.—
diseases, 1294, 6798
ornamental, a descriptive list, 6954
pests, 1313
rootstocks for, 6806
Crematogaster peringuevi, 716
Creptolemus spp., as predators, 6425
Cress (*Lepidium sativum*)—
growth substances, responses, 61
insecticide responses, 110
as a medicinal plant, 989
seed anatomy, 989
seed germination, 61
Cressa cretica, 1520
Criconemoides spp. on vines, 6398
Crocidolomia binotalis, 4816
Crocus—
climate, air pollution, 87
composition, 7150
corm production, 1207
corm storage, 3273
diseases, 1212
pests, nematodes, 3273
Crotalaria—
anagyroides, 2130, 7546
clarkei, 2131

Crotalaria (*continued*)—
juncea, 1575
mucronata, 5407
vitellina, as a shade plant, 3867
Croton spp., propagation, 6805
Crown gall (*Bacterium* (*Agrobacterium*) *tumefaciens*), 1294, 2729, 4139, 5078, 5837, 5879, 6347, 6765, 6798
Crucifers—*see also* Brassicas *and individual crops*—
breeding, 4775
diseases, 2337
pests, 172, 855
seed production, 4775
Cryptocline cyclaminis, 3284
Cryptomeria spp., methyl bromide injury, 1271
Cryptorrhynchus lapathi, 1633, 7203
Ctenicera tarsalis, 4672
Cucumber and gherkin—*see also under* Cucurbits—
breeding and genetics, 876, 2345, 2916, 2919, 2941
climate—
frost protection, 885
light responses, 162, 793, 887, 896, 2922, 4826, 4827, 5848, 6482
temperature responses, 884, 886, 896, 2920
wind protection, 885
composition, 813, 884, 890, 2944, 4102, 4824,
diseases—
bacterial, 4854, 6497, 6569
fungus, 87, 805, 909, 2345, 2918, 2941, 2942, 2944-2946, 2951, 4215, 4855, 4857-4859, 6478, 6570, 6571, 6573, 6575
general, 5974, 6537
non-parasitic, 2919
resistance, 879, 2939, 2941
virus, 912, 1429, 2938-3940, 4138, 4850, 4851, 4859
economics and labour requirements, 4830, 5803, 6473, 6553
flowers, sex expression, 194, 880, 881, 893-897, 2350, 2915, 2916, 2922, 4828, 6557, 6558
fruit, parthenocarpic, 4828
growing—
under glass or plastic, 153, 2915, 2921, 4737, 5955
in peat, 30, 3195
on straw-bale beds, 157
in various countries, 4823, 6553
growth studies, 2347
growth substances, responses, 58, 194, 794, 892, 894, 2248, 2915, 3157, 4828, 6556-6558
harvesting, 2304, 2924, 4836, 4897
herbicide responses, 4835, 5888
hybrid vigour, 2917, 4824
leaf, optical properties, 35
nutrition—
carbon dioxide, 887
foliar, 3138
iodine, 3138
Cucumber—nutrition (*continued*)—
manuring and major elements, 886, 888, 889, 4072, 4747, 4748, 4831, 6491, 6492
packaging, 6559
pests—
insects, 2951, 4861, 6571, 6578
mites, 2950, 2951, 6402, 6571
nematodes, 4860, 5905, 6576
physiology and metabolism—*see also above*, climate—39, 884, 890, 2219, 2232, 2919, 2923, 2945, 4082, 4102, 4111, 4824, 5876, 6633
planting, spacing, 2841, 2946
pollen germination and sterility, 194, 882, 2256
pollination, 4829
propagation—*see also below*, seed *and* seedling—by grafting, 881
pruning and training, 891, 4836
research in Denmark, 5953
root systems, 891, 2915
root tissue culture, 4082
rootstocks for, 881
seed—
characters, 6555
extraction, 2918
germination, 789, 805, 883, 2186, 2918, 4098
quality, 2841
treatments, 883, 4743, 6478
seedling production, 793, 2841, 4173, 4175, 4826, 4827
soil—
heating, 162, 2846, 4192, 5955
management—
fumigation and sterilization, 2951, 4850, 4860
irrigation, 890, 4834
mulching, 798, 4832, 6575
weed control, 88, 99, 802
transport, 4833
soilless culture, 888, 4830
spray and other chemical injuries, 94, 805, 875, 2942, 2948, 5905, 6571
spray residues, 2858, 4151
varieties, cucumber, 194, 776, 783, 813, 877, 878, 880, 2350, 2354, 2359, 2840, 2915, 4825, 6477, 6554
varieties, gherkin, 68, 875, 879
Cucurbita spp., as rootstocks, 2930, 4838, 4839, 5960
Cucurbitine in seeds, 4849
Cucurbits—*see also Cucurbita and individual crops*—
a book on, 6552
diseases, fungus, 913, 2947, 2948, 4140, 6574
diseases, varietal resistance, 87
graft relationships, 5960
pests, 913, 2952-2954
soil management, weed control, 76
spray injury, 2370
as virus indicator plants, 2711
Cuerna costalis, 6341

Cultivators—*see under* Machines
Cumin (*Cuminum cyminum*), 7109
Cupressus spp., diseases, 6919
Currant—*see* Black-currant, Red-currant, *and* White-currant
Curvularia spp., on gladioli, 5164
Curvularia trifolii, 1221, 1222, 3289, 6848
Cuscuta—
  europaea, 1592
  lupuliformis, 2608
  monogyna, 7160
Custard apple—*see Annona*
Cuticle and cutin—*see* Fruit *and* Leaf
Cuttings—
  callusing, 1667
  diseases, tests for, 5118
  enzyme activity in, 4503
  hardening off, 3206
  labour requirements for preparation of, 5803
  light—
    artificial, for, 3365
    intensity responses, 1587
    photoperiodic responses, 1305, 6189
  mist or humidification for, 1151, 1294, 1303, 1322, 1330, 1342, 1584, 1790, 2190, 2321, 2351, 2427, 2447, 3203-3206, 3385, 3390, 3862, 4056-4058, 5109, 5111, 5203, 5230, 5236, 5947, 6934
  nurse-root grafts to aid rooting, 250, 4276, 6296
  packing and transport, 6800
  planting machine for, 6249
  plants propagated from—*for separate plants see each under* propagation—
    ornamentals—
      conifers, 1294, 3206, 3353, 3354, 4057
      herbaceous—*see also* Carnation *and* Chrysanthemum—1191, 1208, 3285, 4056, 4057, 6803
      various, 3259, 6860
      woody—*see also* Azalea, Rhododendron *and* Rose—164, 1294, 1302, 1304, 1305, 1322, 1330, 1342, 2446, 3203, 3205, 3206, 3385, 3390, 3394, 4056, 4057, 5110, 5230, 5236, 5242, 6801-6803, 6955, 6961
    small fruits—*see also* Vine—481, 482, 2446, 2601, 3203, 6189
    temperate fruit and nut trees—*see* Apple, Cherry, Pear *and* Plum
    tropical and sub-tropical crops, tree and bush—*see also* Cacao, Coffee *and* Tea—195, 1666, 1667, 1790, 1960, 3635, 3777, 3897, 4056, 5535, 5790
    tropical and sub-tropical crops, various—*see* Pineapple *and* Sugar-cane setts
    various, 1584, 1587, 3504, 7133
    vegetables, 4794
  plastic bags for rooting, 4011
  plastic covers to protect, 5758
  rooted, storage, 201, 3285

Cuttings (*continued*)—
  rooting—
    factors affecting, general, 20, 519, 1294, 1302, 1322, 1587, 2015, 2192, 2632, 3206, 4503, 5110, 5112, 5712, 5761, 5762, 6041, 6802, 6803, 7538, 7539
    media—
      heating, 6804
      irrigation, sub-, 3204
      pH, 5759
      various types, 1294, 1342, 2336, 2615, 3205-3207, 3390, 3863, 5111, 5203, 5759, 5953, 6037, 6803
      water, 3504
    from pre-formed root primordia, 1666
    response, evaluation, 3364
  source—
    plants—
      differing in nutrient status, 164, 3635, 6799
      differing in size, 6860
      forced, 5535
      juvenility induced in, 1330
      light treatment of, 4175
      raised in different ways, 519
    shoots of different ages or positions, 519, 1304, 1322, 1587, 2446, 2447, 2632, 3354, 5790, 5793
    shoots of different sizes, 482, 2633, 3354
  storage and stratification—*see also above*, rooted—519, 520, 1186, 1302, 2446, 4287, 4503, 5758, 6038, 6229, 6798, 6801
  temperature responses, 4087, 6804
  treatment—
    with antibiotics, 2276
    with colchicine, 6858
    with electric current, 6224
    with fungicides—*see also* Sugar-cane setts—1302, 2015, 6836
    with growth substances, 195, 249, 255, 520, 1151, 1191, 1294, 1302, 1304, 1322, 1330, 1331, 1667, 1914, 1960, 2191, 2446, 3206, 3259, 3385, 3777, 3822, 3863, 3897, 4056, 4287, 4503, 4504, 5712, 5760-5762, 6801, 6802, 6935, 6955, 7133, 7419, 7539
    with heat—*see also* Sugar-cane setts—3635, 4666
    with nutrients, 3207, 5963, 7539
    with various chemicals, 2648, 4503
    with vitamins, 2191, 4503
    with water, 4503
    with wax coatings, 3504
    wounding, 3206
    with yeast extract, 4503
  types—
    leaf and stem compared, 5112
    leaf-blade, 1208, 4087
    leaf-bud, 3385, 3390
    root, 238, 1294, 2347, 3385, 6038
    single-bud, 6189
    tip or meristem, for virus elimination, 2723, 3190, 4582, 4592, 4594, 6814

Cuttings (*continued*)—
working position for taking, 3394
Cutworm control, 810, 942, 1135, 3184, 4906
Cyamopsis sp., guar gum from, 7163
Cyanide in plants, physiological action of, 329, 4875, 5833
Cyclamen—
breeding, 5173, 5174
diseases, 87, 2273, 2356, 3180, 3278, 3284, 5178
economics and labour requirements, 3279, 3280, 5175, 6862
flower yields for cutting, 1213
growing in Germany, 3279-3281, 5175
growing in peat, 5175
growth substances, responses, 2343
nutrition, 3278, 3282, 5176, 5830, 6791
pests, 3180, 6864
pollen production, 5177
pollination, 3283
pots and saucers for, 5176
potting, 3282
research in Great Britain, 5969
seed—
production, 3283
size, 6863
sowing, 6862
soil composts, 2346, 3180, 3278, 3282, 5955
species and varieties, 2313, 3190
spray and other chemical injuries, 3180, 5178
watering, 4196
Cycloconium oleaginum—see Olive diseases, fungus, leaf spot
Cydia—
funebrana, 750
molesta—see Fruit moth, oriental
nigricana, 87, 88, 954, 968, 4928
pomonella—see Codling moth
pyrivora, 4700
Cylindrocarpon radicicola, 87, 3278
Cymbidium spp.—*see also under* Orchids—
composition, 5202
diseases, 3190
nutrition, 5201, 6915
protocorm development, 3349
Cymbopogon densiflorus, as a medicinal plant, 5353
Cymbopogon spp., yielding citronella and other aromatic oils, 1558, 3519, 3562, 7154
Cynoches ventricosum, 3347
Cynodon spp., as lawn grasses, 1246, 6891, 6897, 6900
Cynodon spp., as weeds, 1678, 1679, 2069, 3215, 3652, 4311, 7235
Cynosurus cristatus, 3321
Cyperis spp., as weeds (nutgrass), 1383, 1822, 2066, 2071, 2268, 3941, 3973, 4130, 5044, 5448, 5538
Cyphomandra betacea, 5535
Cyprus, horticultural research, 2164
Cytisus spp., breeding, 1294, 6798
Cytisus spp., composition, alkaloids, 3529
Cytospora—see also Valsa—spp., unspecified, 2692, 2742, 4636-4638
Czechoslovakia, vegetable research in, 2838

Dactylaria thaumasia, 1140, 3181
Dacus—
cucurbitae, 915, 2954
diversus, 1981
ferrugineus, 1981
oleae—see Olive, pests, fly
zonatus, 1981
Daffodil—*see* Narcissus *and under* Bulbs
Dahlia—
diseases, 2345, 5900, 6865, 6866
growing in Great Britain, 5179
nutrition, 1215
propagation by cuttings, 3285
research in Great Britain, 5969
root formation and anatomy, 1214
soil management, weed control, 158, 6808
varieties, 776, 3190, 6865
Dalbergia spp., as shade trees, 4022
Damping-off—*see also Corticium, Pythium and other relevant genera*—control by chemicals, 94, 850, 909, 1345, 1372, 1376, 1912, 3098, 5901
Damson varieties, 2424
Dandelion—*see Taraxacum officinale*
Danish—*see under* Denmark
Daphne breeding, 1294
Daphne, growth substance responses, 3382
Dasyneura tetensi, 691, 4689
Date—
climate, heat tolerance, 3747
diseases, 3748, 5513, 7306, 7307
growing in various countries, 1779, 1780, 3746
harvesting, hydraulic elevators for, 1781
propagation, vegetative, 7305
varieties, 2364, 7307
Datura—
spp., composition, alkaloids, 3530, 5371-5373, 7129
spp., intergeneric grafts, 3140, 3141
stramonium—
alkaloid synthesis, composition and extraction, 1521, 1522, 3531, 5374, 7129
diseases, 26, 92, 1521, 6338
nutrition, 3531
physiology, 26, 92, 7055
Deer control and repellents, 2827
Deficiencies, mineral—*see also* Minor elements, Nutrition *and individual elements*—
indicator plants for, 1705
in temperate fruit and nut crops, 624, 4547, 5963, 6307
in tropical and sub-tropical fruit and plantation crops, 1703, 1944, 1994
in vegetables, 931, 4759, 6710
virus symptoms affected by, 4598
Defoliation—
artificial, kinetics of, 7021
with chemicals, 248, 6599, 6798

Defoliation (*continued*)—
by cold treatment, 1294
disease incidence affected by, 165, 5426
flowering and fruiting responses to, 174, 326, 1795, 2044, 2354, 2359, 2451, 2488, 2557, 4457, 4525, 6626, 7324
growth responses to, 2488, 4348, 6953, 7547
Dehydration—*see* Drying
Deightoniella torulosa, 1846, 3813, 3814, 7357
Delia—see Hylemyia
Delphinium—
breeding and selection, 5135
consolida, 5379
cytology, 3242
danudatum, 1523
diseases, 88
flower abnormalities, 5136
pollination, 5135
seed vernalization, 5379
Society's Year Book, 5135
zalil, 5135
Dendrobium spp., nutrition, 5201, 6915
Dendrocalamus spp., bamboos, 3502, 5341
Dendrophoma—
marconii—see Botryosphaeria
obscurans, 5977
sp., antagonistic to *Botrytis*, 6380
Dendrophthoe falcata, 2364
Denmark, horticultural research, 2164
Denmark, Horticultural Yearbook, 5953
Depressaria erinaceella, 2864
Depressaria nervosa, 87, 88
Deuterophoma tracheiphila, 3714, 5478
Deutsche Akad. LandwWiss. Berlin, Yearbook, 2341
Deutzia spp., breeding, 1294
Deutzia spp., propagation by cuttings, 3204, 6802
Dew—*see under* Climate
Dextran-forming organisms in cabbage isolates, 6523
Dextrose—*see under* Sugars
Diabrotica undecimpunctata, 4861
Dianthus—
barbatus—see Sweet William
caryophyllus—see Carnation
spp., salt tolerance, 3197
Diaphorina citri, 3725, 5488, 7273
Diaspidiotus spp.—*see also* San José scale—micro-organisms pathogenic to, 6447
Diaspis—
boisduvalii, 1268
carueli, 6794
pentagona, 759, 6450
Diatraea spp., on sugar-cane—*see* Sugar-cane pests, borers
Dibotryon morbosum, 663, 4632
Dicentra spp., taxonomy, pollen morphology as a guide to, 6833
Dictionary of fruit and vegetable trade terminology, multilingual, 74
Dictyosperma album, 3392
Didymella—
applanata, 495, 6202
arcuata, 7160
lycopersici, 803, 6771
spp., unspecified, 2345
Didymellina macrospora, 1225
Dieffenbachia spp., diseases, 3338
Diervilla spp.—
breeding, 1294, 6798
nutrition, 1306, 6945
propagation by cuttings, 1302
rootstocks, 6806
Digitalis—
ferruginea, 5376
lanata, 1524, 1525, 3532-3534, 5377
lutea, 3533
purpurea, 1526, 3533, 5186
spp.—
breeding and selection, 3532, 3533
diseases, 3534
glycosides, 1524-1526, 3532, 3533, 5376, 5377
growth substances, responses, 1525, 7130
harvesting, 3532
pollen germination, 5186
temperature responses, 3532
tissue culture, 7130
Digitaria—see Crabgrass
Dill—
composition, 1482, 3059
diseases, 5345
harvesting, 1482
light responses, 3077, 4084
pests, 7109
as a rootstock for carrots, 4084
seed sowing rates, 3077
weed control, 3059, 6490
Dimorphotheca sinuata, diseases, 5137
Dinoderus minutus, 5341
Dioscorea dumetorum, tuber, alkaloids in, 3535
Dioscorea spp., as medicinal plants, 1527-1529, 3519, 5360, 5378
Diphenylamine for ozone protection, 5300
Diplocarpon earliana, 4640
Diplocarpon rosae, 1283, 1284, 1294, 3374-3376, 5212, 5218, 5977, 6941
Diplodia spp., unspecified, 679, 1285
Diplodina citrullina, 5953
Dipteryx odorata, 5351
Directory, *Where to buy Everything for Agriculture and Horticulture*, an annual, 2335
Dirphia sabina, 4145
Disease(s)—*see also* Bacterial *and* Virus *and separate pathogens and hosts*—
composition and metabolism of plants affected by—*see also* Toxins, pathogen-produced—26, 87, 1521, 1590, 2906, 2943, 2966, 4887, 5003, 5093, 6761, 7365
control—*see also* Antibiotics, Fungicides *and* Heat Treatment—
biological, 2965, 6365, 6379, 6380
economics, 601
by mulching, 6575

Disease(s) (*continued*)—
detection by ultra-violet light, 7066
forecasting, 2336, 2947, 4185, 4568, 4618, 4619, 7265
host's defensive mechanisms, 6816
identification, 3062, 5896
incidence, climate in relation to, 3593
a list of common British plant, 5895
losses caused by, 7060, 7062
of ornamental plants, 6792
potential, measurement of, 1115, 5900
resistance—
factors affecting, 525, 588, 644, 648, 661, 794, 849, 908, 951, 1006, 1041, 1116, 1131, 1435, 1498, 1561, 2361, 2544, 2619, 2717, 2724, 2730, 2742, 2905, 3268, 3289, 3338, 3471, 3473, 3482, 3713, 3807, 3812, 4485, 4498, 4612, 4620, 4891, 5002, 5311, 5312, 5315, 5319, 5478, 6174, 6202, 6351, 6356, 6774, 7057, 7063, 7065, 7077, 7365
host nutrition relationships, 636, 661, 673, 1115, 1128, 1131, 2726, 2744, 2905, 3106, 3169, 3293, 3483, 4607. 4614, 4922, 4923, 5900, 6765
inoculation to induce, 155
tests for, 1438, 2994, 3988, 4882, 4883, 5740, 7084, 7211, 7523
transfer from rootstock to scion, 6298
in Scotland, 85
seed-borne—*see* Seed
Distantiella theobroma, 5607
Ditylenchus dipsaci, 3066, 3273, 3311, 3313, 6689
Ditylenchus myceliophagus, 6671
Dodder (*Cuscuta* spp.), control, 1592, 2608, 7160
Dodonea viscosa, composition, 1613
Dogwood—*see Cornus*
Dolichos lablab, 953
Dolichotetranychus australianus, 3331
Dormancy in—*see also* Growth-substances *and under* Temperature—
bulbs, corms and root crops, 848, 3287, 5161, 5167, 5960
herbaceous plants, 820, 1590
seeds—*see* Seed
woody plants, 55, 323, 328, 329, 1282, 2450, 2648, 2649, 3673, 4259, 4268, 4355, 4567, 5214, 5220-5222, 5454, 5955, 5963, 6019, 6023, 6077, 6096
Dracaena spp., temperature responses, 1260
Drainage—*see* Soil drainage
Drepanothrips reuteri, 6453
Driers—*see* Drying kilns
Drosicha stebbingi, 1984
Drosophila melanogaster, 111, 735, 737, 2291
Drosophila spp., unspecified, 734, 736, 1137, 2784
Drought responses or resistance—
of deciduous fruit trees, 271
of evergreen fruit and plantation trees, 3755, 3877
factors affecting, 791, 3126
Drought responses or resistance (*continued*)—
of ornamentals, 5136
physiological aspects, 271, 5057, 5810
of vegetables, 2243, 5057, 6513
of vines, 2618
Drug plants—*see* Medicinal plants
Drying—
bulbs, 5955
cacao, 5613
coffee—*see* Coffee, processing
fruits, 581, 2371, 4232, 5884
hops—*see* Hop
kilns and machines for—
cacao, 5613
copra—*see under* Coconut products
hops, 1596, 3604, 5415
pyrethrum, 1602, 1603
tobacco—*see under* Tobacco curing
medicinal plants, 7145
pyrethrum flowers, 1602, 1603, 3614
vegetables, 4232, 5884
Dryopteris spp., composition, 7131, 7132
Dublin, agric. Inst., tech. Progr. Rep., 2336-2338
Dust application from aircraft—*see under* Aircraft
Dust application methods, wet dusting, 682
Dusters, electrically charging, 5908
Dusters, various types, 1451, 2189
Dutch lights—*see under* Frames
Dwarfing—
physiological, 258, 2486, 6076, 6078
of plants by bark inversion, 5582
of plants, growth substances cause—*see* Growth-substances
Dyes, plant sources, 3558, 3559, 5361
Dysaphis—see Sappaphis

Eacles magnifica, 3890
Earias spp., on okra, 3050
Earthworm—
control, 1253, 3180, 3333
populations, factors affecting, 100, 160, 6902
populations of orchards, 5966
East Africa(n)—
Agric. For. Res. Organ., A.R., 4231
industr. Res. Organ., A.R., 4232
Tea Res. Inst., A.R., 2107
East Malling Res. Stat., A.R., 4213
Echinochloa spp., control, 5041
Economics—*see also* Labour *and* Trade—of—
cloche culture, 4737
crops—*see also* Harvesting, Packing *and* Marketing—
glasshouse and frame, 2, 4187, 5142
ornamentals, 3220, 3279, 3280, 3343, 6788, 6811, 6862, 6879
small fruits and vines, 490, 2591, 4476, 5956, 6172, 6209
temperate fruit and nut trees, 2, 2397, 2398, 2493, 2694, 4242, 4243, 4250, 4275, 5992

Economics of—crops (*continued*)—
tropical and sub-tropical fruit and plantation—*see also* Citrus—1900, 1947, 1997, 3638, 3854, 3873, 3926, 3944, 5570, 5677, 7316
various—*see also* Tobacco—3580, 4041
vegetables, 2, 821, 1034, 1055, 1060, 1127, 2880, 4737, 4738, 4770, 6553, 6678, 6693
frost protection, 263
fruit storage, 2534
horticulture, general aspects, 4039, 4040
irrigation—*see* Irrigation
nursery management, 4275
palm oil extraction, 1995
plant protection, 601, 602, 1127, 2694, 3045, 3485, 4728, 5897
soil sterilization, 3208
soilless culture systems, 2214, 4830, 5835
weed control—*see* Weed control
Edinburgh Sch. Agric., A.R., 2342, 5964
Edwardsiana rosae, 6423
Efford exp. Hort. Stat., N.A.A.S., A.R., 157
Eggplant—
breeding, 3110
climate, cold resistance and protection, 794, 5014
diseases—
bacterial, 4215
fungus, 2269, 6478
resistance, 3110
virus, 6496
fruit set, 4964, 6730
growth substance responses, 794, 1061, 1109
hybrids, vegetative, 3111
nutrition, 6729
pests, 808, 1062, 5015, 5016, 6728
physiology, 6731
pollination, 6730
research in India, 2364
as a rootstock for tomato, 3140
seed—
germination, 1061
production and storage, 5017
treatment, 1061, 1109, 3125, 6478
soil management, weed control, 802
varieties, 783, 5015, 6728
Elaeagnus multiflora, as a fruit plant, 2601
Elaeis (mainly *E. guineensis*—oil palms)—
a bibliography on, 5672
breeding and selection, 197, 1986
climatic responses, 1992
composition, leaf, 7395
diseases, fungus, 191, 1986, 1988, 5680
diseases, general, 5539
economics, 1995, 5677
flower sex, factors affecting, 191
fruiting, yield cycles, 1992
growing, management of young plantations, 7469
growth, dormancy, 1992
growth, stem morphology, 1993
herbicide injury, 5679
leaf morphology, 5673
Elaeis (*continued*)—
nursery management, 1988-1990, 5536, 5674
nutrition, 191, 1986, 1994, 5677, 5678, 7395
palm oil—
extraction, 1995
production and trade, 5417
a review, 1987
storage and deterioration, 1996
pests, 5539, 5984
planting methods, 1989, 7468
pollen storage and viability, 5537
research in—
the Congo, 196
France and associated countries, 3914, 7335
Surinam, 2375
West Africa, 3913, 5978
seed storage, treatment and germination, 5675, 5676
soil—
management—
cultivation, 7470
irrigation, 1990
mulching, 7468
weed control, 5679, 7338
requirements, 5678
thinning and destruction of trees, 1991
Elasmopalpus lignosellus, 7526
Elder—
composition, fruit, 6199
composition, leaf, 5926
rootstocks, 6806
varieties, 2359, 6199
Electric(al)—
charging of insecticide dusts, 5908
curing and fermentation of tobacco, 3494, 3496
current—
generation and movement in plants, 5861, 5862
growth cycle affected by, 5999
nutrient translocation affected by, 4070
rooting of cuttings affected by, 6224
soil micro-organisms affected by, 5824
soil treatment with, 3114
heating—*see also* Soil heating—4197, 5940
resistance in plants, 2428, 4112
Electricity, horticultural uses of, 161, 1294, 4173
Electronic apparatus for glasshouse climate control, 4191
Electronic hoe, 5931
Eleocharis dulcis, 2072
Eleocharis tuberosa, 5101
Elettaria cardamom—see under Cardamoms
Elm—
diseases, 6950
pests, 6950, 6951
propagation, 5111
rootstocks, 6806
seed germination, 1327
Elsinoë—
ampelina, 677, 2749, 2750
fawcetti, 1728, 5479

Elsinoë (*continued*)—
veneta, 491, 6202
Emblica officinalis—see Phyllanthus emblica
Embryo—*see* Seed
Empoasca—
fabae, 2970-2972, 4896
flavescens, 6424
libyca, 4216, 6424
Enarmonia—see also Cydia—caryana, 6440
Enarmonia woeberiana, 6438
Encyclopaedia of microscopy, 2324
Endive—*see also* Chicory—
pests, 98, 6662
research in Holland, 6473
seed characters, 6653
seed testing, 6654
weed control, 2855, 6489
Endosperm—*see* Seed
Endothia parasitica—see Chestnut diseases, fungus
England—*see under* Great Britain
Entomology, Annual Review of, 2334
Entyloma calendulae, 6832
Entyloma dahliae, 6866
Environment, controlled—*see* Apparatus *and under specific factors*, e.g. Light, Temperature
Enzyme(s)—
activity—
carbohydrate metabolism affected by, 5748
cell wall degradation in relation to, 4108
changes during plant growth, 4351
in cuttings, 4503
diseases affect or affected by, 92, 912, 951, 2361, 2945, 3771, 4485, 4607, 4612, 4620, 4886, 5602, 6348, 6775
in dried tobacco, 7044
during fermentation of tobacco, 3498
flavour in relation to, 1016
in fruits and seeds, 381, 384, 419, 425, 1775, 1863, 2340, 2507, 2684, 3002, 3011, 3771, 4211, 6348
in fungi, 4612, 5082
growth substances in relation to, 892, 3064, 3983, 4355, 7247
hybridization in relation to, 4824
inhibition of, 970, 2252, 4106, 4107, 4110, 4620, 5856, 6731, 6775
leaf injury affects, 92
leaf symmetry in relation to, 38
light and photoperiodism affect, 4006, 5239
lignification affected by, 4355
of mitochondria, 425
organic acid synthesis in relation to, 7210
pigment destruction by, 6348
nutrition of plants affects, 23, 1488, 3139, 4334, 4548, 4607, 5831
in the phloem, 2237
phosphorus absorption affected by, 4869
respiration affected by, 4355
in roots, 4092
in seedlings, 2631
temperature affects, 3187, 5100, 5335
Enzyme(s)—activity (*continued*)—
in tubers, 4768
water supply affects, 4006
extraction from mushrooms, 6674
extraction from plants, 385, 5286
specific and groups—
aconitase, 1488
carboxylase, 4211, 5857
catalase, 2631, 3139, 3498, 4006, 4485, 5831
cellulase, 2945, 4110
condensing, 4109
cytochrome oxidase, 425, 2684, 5831, 5975
diastase, 3983
glutamyl transferase, 3002
indoleacetic acid oxidase, 47, 970, 2252, 4106, 4107, 5856
invertase, 5748
laccase and pseudolaccase, 4956
oxalic acid oxidase, 5231
pectin—
esterase, 1775
methyl esterase, 381
polygalacturonase, 3771, 4612
-splitting, 2361
peroxidase, 912, 2684, 4607, 5831, 7247
phenolase, 3011, 4355, 6674
phosphatase, 912, 3187
phosphoglucomutase, 23
phosphorylase, 5100
polyphenoloxidase, 384, 912, 1833, 1863, 2339, 3498, 3801, 4485, 5335, 5602
proteolytic, 385, 3498, 7044
ribonuclease, 92, 912, 4351, 4886, 7055
succinic oxidase, 425
urease, 308, 4329
Eotetranychus—see also Tetranychus—
carpini, 4670
lewisi, 6926
pruni, 767
Ephestia cautella, 5612
Ephestia elutella, 3067
Epicoptera spp., on coffee, 5540
Epicotyl development in plants, 2479
Epilachna—
philippinensis, 809
spp., unspecified, 1062
varivestis, 943, 2972, 4896, 6536
Epitrimerus pyri, 6408
Epitrix hirtipennis, 164, 4228
Epochra canadensis, 6422
Erannis defoliaria, 4697
Eranthis spp., air pollution injury, 87
Eranthis spp., growth substance responses, 59
Eremocarpus setigerus, 911
Erica spp.—
diseases, 1329, 6952
nutrition, 3395
physiology, 6952
propagation by cuttings, 3394
soil—
composts, 3395

Erica spp.—soil (*continued*)—
management—
irrigation, 1328, 5237
mulching, 1328
sterilization, 3208
weed control, 5117
varieties and strains, 3393
Ericaceae, evergreen, descriptive notes on, 6928
Erioischia—see Hylemyia
Eriopersicon spp., disease resistance, 1125
Eriophyes—see Phytoptus
Eriosoma lanigerum—see Apple, pests, woolly aphid
Erodium spp., leaf composition, 5138
Erwinia—see also Bacterium—
amylovora, 186, 633-636, 2267, 2411, 2725, 2726, 4217, 4607, 6342, 6343
aroideae, 6884
carotovora, 5737, 6473, 7361
chrysanthemi, 5198
dieffenbachiae, 3338
parthenii, 1167
Erysiphaceae, control in general, 1289
Erysiphe cichoracearum, 93, 911, 1209, 2345, 2948, 3421, 4215, 4857, 4858, 5903, 6570, 6571, 6650, 6658
Erysiphe polygoni, 88, 1202, 4140, 4924
Erythrina spp., as shade trees, 2128, 3776, 4025, 5770, 7423
Erythrina variegata, medicinal bark from, 1530, 1531
Essential oil(s)—*see also individual oil-bearing species—*
analysis, 1560, 1562, 1564, 1578, 7122, 7175, 7176
anise (*Pimpinella anisum*), 1474
Artemisia spp., 7122
biosynthesis and metabolism, 3563, 5216
buchu (*Barosma* spp.), 5394
camphor—*see below, Cinnamomum and Ocimum*
caraway, 1474
chamomile, 3525
chenopodium, 5395
Cinnamomum spp., 202, 1557, 5396
citronella—*see Cymbopogon* spp.
citrus—*see* Citrus products
content, factors affecting, 1565, 1566, 3563, 3567, 3568, 7153
coriander, 1474
costus (*Saussurea lappa*), 3509
distillation, 7152
extraction methods, various, 7301
fennel (*Foeniculum vulgare*), 1474
geranium (*Pelargonium* spp.), 205, 2365, 3563, 5397, 7152
hemp (*Cannabis sativa*), 1578
Heracleum sphondylium, 3516
hop, 7175, 7176
lavender and lavandin, 1560, 7152
marjoram (*Origanum vulgare*), 1564
mint—*see under* Mint
nindi (*Aeolanthus gamwelliae*), 205
Essential oil(s) (*continued*)—
Ocimum spp., 1563, 3567, 7152
packing of plant drugs containing, 1569
parsnip, 3516
patchouli (*Pogostemon* spp.), 202
peppermint—*see under* Mint
petitgrain from bergamot orange leaves, 3657
plants and production in various countries, 196, 3520, 3560, 3561, 4042, 5361, 7152
Pseudowintera colorata, 5399
rose—*see* Rose
sage (*Salvia* spp.), 1566-1568, 3567, 7152
sandalwood (*Santalum* spp.), 1565, 3568, 5400
spearmint—*see under* Mint
vetiver (*Vetiveria zizanioides*), 3570, 5401
vine leaf, 6287
Eterusia magnifica, 4023
Ethiopia, crops, 2326
Ethylene—
determination, 3912
emission by fruits, 2507, 2934, 3912, 4354, 4842, 5096, 5441, 7340
injury to plants, 5240
isocoumarin formation affected by, 3091
oxide for sterilizing hevea tapping panels, 2033
radioactive, 3091
treatment for ripening fruits, nuts or vegetables—*see also* Citrus, storage—1644, 2370, 2933, 5095, 7340
Etiella zinckenella, 6631
Eucalyptus spp., propagation, 5109
Eucosma nereidopa, 1906
Eugenia jambolana, 4231
Eulia dimorpha, 5492
Eumargarodes laingi, 1254
Eumerus strigatus and *E. tuberculatus*, 5187
Euonymus spp.—
growth substance responses, 1155, 3382, 5222
propagation, 1294, 6802
spray injury, 3180
Eupatorium odoratum, 1495, 5679
Euphorbia—
fulgens, 3202
lathyris, 1614, 7193
pulcherrima—see Poinsettia
spp., growth substance responses, 59
Euphoria longana, 7332
Euphrasia officinalis, 7120
Euphyllura olivina, 1796
Eupterote canaraica, 1475
European and Mediterranean Plant Prot. Organ. (E.P.P.O.), A.R., 2267
Eurydema ornata, 4811
Euschistus conspersus, 2782
Evolvulus alsinoides, 1520
Exobasidium vexans—see Tea diseases, fungus, blister blight
Experientiae, a new periodical, 4241
Experimental—
design—*see* Statistical
records, cards for, 4186

Experimental (*continued*)—
techniques, a book on, 118
yields, farm yields compared with, 5920
Exports—*see under* Trade

Fagopyrum esculentum, 5358
Fagopyrum sagittatum, 3150
Fagus spp., rootstocks for, 6806
Fairfield exp. Hort. Stat., N.A.A.S., A.R., 158
Fasciation in plants, 2021, 4113
Fats—*see also under* Oils—contents of plants, factors affecting, 7153
Fats, metabolism in higher plants, 5418, 5421, 5859
Feijoa pollination, 7308
Fennel—
essential oil, 1474
"florence", 5346
growing in various countries, 5346, 7111
pests, 7109
pollination, 1481
varieties, 1473
Fenusa pusilla, 1314
Ferns—*see also separate genera*—
nutrition, 3342
propagation, 5199
soilless culture, 3342
Fertilizer(s)—*see also* Nutrition *and separate crops under* nutrition *and also separate elements*—
application—*see also below*, placement *and also* Irrigation—
machinery for, 2836, 5718
methods compared, 5047, 5458
by soil injection, 4330
formulations, controlled-release, 5123, 5830
industrial wastes, 833, 4752, 5347
-insecticide mixtures—*see* Insecticides
liquid, crop responses, 5970
-nematicide mixtures, 5906
organic wastes, 6473, 7396
placement, for fruit and nut crops, 600, 2463, 6066
placement, for vegetables, 901
trace elements as impurities in, 4066
Ferulic acid in plants, 4355
Festuca—
arundinacea, 1244, 1246, 6892, 6893
elatior, 6892
ovina, 3321
rubra, 3321, 3327
spp., herbicide responses, 6895
Fibre(s)—
plants—*see also* Bamboo, Banana, Coconut, Hemp, Kapok, Manila hemp, Ramie, Sansevieria *and* Sisal, *and species of Agave and Phormium*—seed production, 2183
plants, in various countries, 148, 4042
production and trade, 1570
Ficus—
carica—*see* Fig
elastica, 98, 1260, 3180, 5841, 6791
Ficus (*continued*)—
glomerata, 1532
spp., economics, 3343
Fig—
climate, temperature responses, 2449
composition, fruit, 385, 2518, 4321, 4404
composition, leaf and root, 2302, 4321
fruit—*see also above*, composition, *and below*, harvesting, packing *and* storage—fumigation, 4417
growing in various countries, 218, 2383
harvesting, 397
packing, 4417
pests, insects, 726, 735, 736, 4145, 6442, 6452
physiology, heat resistance, acquired, 39
physiology, respiration, 2449
storage, 4417
varieties, 218
Filbert—*see under* Cob nut
Finland, horticulture and research in, 4038
Fiorinia spp., on hemlock, 1315
Fish poisons from plants, 3540, 3543, 3627, 3630, 3553
Flavonoids—*see under* Pigments
Flavour—*see also* Taste—in fruits, 219
Flax-retting mud, as a fertilizer, 833
Flemingia spp., as cover crops, 7486
Flood fallowing for disease and pest control, etc., 3019
Flooding—*see also* Soil waterlogging—plant responses to, 5963
Flora(s) of—
Belgium, 2328, 4200
the Cape Verde Islands, 2167
Ghana, 148
Great Britain, 5952
Kenya, 4199
New Zealand, 145
South Africa, 4205
Florida agric. Exp. Stats, A.R., 192
Flower(s)—
bud dormancy, factors affecting, 4516
bud initiation and development—*see also* Apple, Chrysanthemum, Citrus, Mango, Olive, Peach, Strawberry, Tomato *and* Vine—32, 326, 327, 483, 484, 493, 842, 897, 974, 1057, 1155, 1164, 1198, 1201, 1217, 1259, 1326, 1343, 1344, 1349, 1399, 1616, 1809, 2037, 2118, 2221, 2223, 2224, 2250, 2371, 2586, 2596, 2682, 3224, 3240, 3251, 3297, 3303, 3307, 3317, 3335, 3344, 3510, 3799, 3879, 3921, 4086, 4375, 4386, 4389, 4480, 4840, 4965, 5144, 5167, 5209, 5665, 5850, 5880, 5970, 6522, 6529, 6623, 6905, 6922, 7209
colour—*see also below*, pigments—
breaking, virus-induced, 6792
genetics, a review, 1152
pest response to, 4705
crops—*see separate crops and under* Ornamental plants
culture *in vitro*, 4380

Flower(s) (*continued*)—
cut—
containers, bacteria associated with, 1161
economics, 6789
fumigation, 1221
marketing and trade, 1162, 5119
neck droop, factors affecting, 1291
packing and grading, 3248, 6789
prolonging life of, 3200-3202, 3246, 3380, 5120, 5212, 6797, 6943
storage and transport, 1160, 1223, 2261, 3379, 3380, 4054, 5120
drop, factors affecting, 541
drop, prevention by growth substances, 368
male sterility, 4774, 5522
morphology—
growth substances affect, 1205, 4375
leaf proteins in relation to, 3318
photoperiod affects, 6813
pigments—*see also above*, colour—6792, 7140
pistil abortion, 5522
proliferation, 5136
removal, responses of brassicas to, 4779
respiration, 2235
sex, factors affecting, 191, 537, 881, 893-897, 906, 1572, 1608-1610, 2001, 2226, 2915, 2916, 2922, 2927, 2931, 4828, 5522, 5681, 5682, 6557, 6558, 7471
thinning with fungicides, 6111
thinning with growth substances—*see* Growth-substances, fruit and flower
Flowering dates for fruits and nuts in the U.S.A., 2379
Flowering, plant senescence in relation to, 2222
Fluorescent characters of tobacco leaves, 5283
Fluorine and fluorides—
contents of plants, 4071
injury to plants, 87, 2177, 2178, 3151, 4071, 5163, 5811
plant metabolism affected by, 3151
Fly-ash, plant growth affected by, 4752
Foeniculum vulgare—*see* Fennel
Foliar diagnosis—*see* Leaf analysis *and also individual plants under* composition *and* nutrition
Foliar nutrition—*see* Nutrition, foliar
Foliation, delayed—*see under* Dormancy
Fomes lignosus, 2023, 3936, 7493
Fomes noxius, 2023, 3936, 5783
Food Agric. Organ. (FAO), Production Yearbook, 149
Forcing—*see also under* Growth-substances, flowering affected by, Light *and* Photoperiodism—
ornamentals, bulbs and tubers, 1207, 1224, 1233, 1237-1239, 3277, 3301, 3303, 3304, 3306, 3309, 3190, 6877
ornamentals, woody plants, 1347, 1349, 3368, 5221
small fruits, 2565, 4441
vegetables, 985, 2344, 2347, 3025, 4944
Forcipomyia spp., as pollinators, 3825, 3826, 7385
Forecasting—*see also* Disease—
crop maturity, 6120
crop yields, 592, 2352, 2663, 7479
pest incidence, 6439, 7265
Forget-me-not, growth substance responses, 5873
Forget-me-not, seed storage, 4051
Formosa—*see* Taiwan
Forsythia—
flower composition, 5239
forcing, 5221
herbicide responses, 3214
mutations, 1294
nutrition, 1306, 1309, 5238
propagation by cuttings, 6802
soil drainage, 3190
soil management, irrigation, 3396
storage of cut branches, 5221, 5240
Foxglove—*see Digitalis purpurea*
Fragaria—*see also* Strawberry—
ananassa, 4595
chiloensis and *F. ovalis*, 6174
spp.—
flowering, 2354
and origin of cultivated strawberry, 2558
polyploid, 436
vesca, 4594, 6328, 6346
Frames—*see also* Cloches, Glasshouses *and under* Soil heating—
construction, 2322, 2323
cropping under, 784, 2310, 2844
plastic covers for, 2322
types, 2310
Frameworking fruit and nut trees, deciduous, 523, 594, 2393, 6026, 6297
Frameworking fruit and plantation trees, evergreen, 4234
France—
crops, fruit, 2387, 4251, 6188
crops, various, 5169, 5420
ornamental shrubs, 1294
Frankliniella—
fusca, 6796
occidentalis, 1121, 6500, 7197
tritici, 6796
Fraxinus spp.—
dormancy breaking, 4567
as ornamental trees, 5241, 6946
rootstocks for, 6806
Freesia—
breeding, 5180
corm production, 1207
corm storage, 3286
economics, 5182
flowering, factors affecting, 3286
growing in various countries, 5181, 5182, 5953
nutrition, 776
pollination, 5180
shading, 177, 776

Freesia (*continued*)—
soil management, mulching and weed control, 88, 177, 3212
soilless culture, 3286
temperature responses, 3286, 5180
varieties, 776, 2343, 5180
Freezing—*see also* Frost—of plant tissues, 2169, 2452, 4044
Freezing, quick or deep—*see* Storage, frozen-pack
Fremontia spp., propagation by cuttings, 5242
Friesdorf/Bad Godesberg, gärtn. Versuchsanst., A.R., 2343
Frit, glass, a source of major elements, 5970
Frit, glass, a source of minor elements, 2350, 4333, 4999, 6528
Frost—
damage—*see also* Apple, Cherry, Citrus, Olive, Peach, Pear *and* Vine *under* climate, *and* Temperature, low—
to deciduous fruit and nut trees, 2415, 2416, 2419, 2422, 2450, 2742
disease incidence affected by, 2269, 2742, 4636-4638
estimating risk of, 4298
to flowers, drought in relation to, 271
to ornamentals, 3383, 4228, 6911
parthenocarpy in relation to, 4382
recovery from, factors aiding, 6101
to tropical and sub-tropical crops, 1378, 1967, 2122, 5646, 5647, 5724, 5764
to vegetables, 2169
weed control in relation to, 2643
protection—
by covering plants, 526, 2122, 2642
economics of, 263
by fans, 264, 1684, 3677, 6046, 7226
by fungicide sprays, 2590
general, 2453, 4213, 5805, 6045
by growth substance sprays, 274, 794, 1685, 2898
by heaters, 3676, 4299, 5807
by inflated covers, 6888
by irrigation, sprinkler, 265, 1294, 4754, 5969, 5970, 6064
by mulching or growing cover crops, 3216, 4309, 5114
to plants in transit, 6911
reviews on, 263, 2171
by screens and windbreaks, 2607, 3216
by smoke or mist, 6047, 6235
by sugar solutions, 2169
resistance—
age of plant affects, 4910
chemical sprays increase, 274
climatic factors affecting, 1683, 2422, 2450
cultural and nutritional factors affecting, 180, 275, 2642, 3690, 4366, 6582
dormancy in relation to, 3383, 3673
growth substances reduce, 3382
morphological and anatomical aspects, 276, 2641, 4303, 4519
Frost—resistance (*continued*)—
pest control affects, 3375, 5234
photoperiod affects, 1683
physiological and biochemical aspects, 247, 274, 485, 1003, 2170, 2422, 3675, 4355, 5970, 5999
of plants, general, 4207
seasonal fluctuations in, 268, 276, 2419, 2422
tests for, 180, 219, 266-268, 494, 2434, 3671, 4301
tissue freezing in relation to, 4044
warnings, 5806
Fructose—*see under* Sugars
Fruit(s)—*see also individual fruits*—
Annual, The, 4210
composition and nutritional value, 7, 2262, 2263
composition, water content, 8
cracking, 1075, 1099, 1101, 1144, 1145, 2546, 2655, 3176, 5965
cuticle and cutin, 766, 4096, 6164
damage during handling, 6129
drop—*see also* Apple, Cacao, Citrus, Mango *and* Vine *under* fruit—352, 372
firmness, determination, 136, 431
flies—*see also separate species*—
control—
biological, 1799, 2785
by eradicating wild hosts, 1801
forecasting emergence to assist, 2789
by fumigation of fruits—*see* Fumigation
by heat, 1740
with insecticides and baits, 712, 729-735, 915, 1741, 1742, 1798-1800, 2363, 2784-2788, 3652, 4236, 4686, 5652, 6420-6422
by low temperature storage, 1740
a review, 1137
radioactive labelling of, 737
fumigation—*see* Fumigation
growth rate, photoperiod affects, 324
growth substances, endogenous, a review, 5880
harvesting—*see* Harvesting
juices, production and trade, 6, 5989
marketing—*see* Marketing
moth, oriental (*Cydia molesta*), 748, 2803, 2804, 4226
packing—*see* Packing
peeling methods, 7569
processing, freeze-drying, accelerated, 2325
processing, wine making, 6142
production and trade, 6, 212, 1654, 4210, 4246, 4247, 5954
quality—
chemistry of, 379
and condition, a symposium on, 378
inter-European standards of, 72
ripening, changes associated with, 418, 1142, 2507, 2508, 3649-3651, 5091-5093, 5100, 7340

Fruit(s) (*continued*)—
ripening, measurement of, 136, 418, 431, 5932, 6120
set—*see* Growth-substances, Pollination and fertilization *and separate crops under* fruit
storage—*see under* Storage
sweetening, saccharin sprays for, 383
thinning—*see also* Growth-substances—
cultural factors interacting with, 296
by high-pressure water sprays, 373
with insecticides, 360, 363, 364, 2505, 6100, 6104, 6107
manual, carry-over effects, 3704
mechanical, 369, 370, 373, 6137
tissue culture, 5836, 7253, 7254
trade terminology, dictionary of, 74
transport, 5883
trees and plants—*see also* Orchard—
air pollution injury, 2455
breeding and selection—*see also* Breeding *and* Manuals—220, 2263, 2384, 2389
climate, hardiness, 4207
diseases, general, 604, 2692
diseases, virus, 2692, 2704, 2705, 4576, 4577
economics and labour requirements, 2, 4242, 4243, 4275, 6079
flower bud formation—*see under* Flower bud
flowering, harvesting and marketing dates in the U.S.A., 2379
growing—
books on—*see* Manuals
on mixed farms, 4040
in various countries, 209, 213, 1820, 2392, 4042, 4213, 4243-4245, 4248, 4249, 4562, 5988, 5993
nurseries, economics, 4275
nutrition, general aspects, 2464, 4338, 5990, 6065, 6066
nutrition, under grass, 4324, 6068
pests—
birds—*see also under* Birds—4711
general, in various countries and their control, 604, 710, 711, 2278, 2279, 2692, 4568, 5910
rodents, 2826, 4712, 4713
planting—
hole drilling, 4356
spacing, 334, 335
work studies on, 6079
pollen storage and germination, a review, 4373
pollen, virus transmission by, 6316
pollination, 4208, 4374
propagation methods, 238, 4274
pruning—*see* Pruning
research in—
Belgium, 2347
Cyprus, 5980
Germany, 4494
Great Britain, 169
Rhodesia/Nyasaland, 2363
Spain, 4216
Fruit(s)—trees and plants—research in (*continued*)—
Switzerland, 2356
the U.S.A., 2359, 5956, 5970
root studies, 4169
root systems, 288, 6054
rootstocks—*see* Rootstocks
seed germination, 6024
soil waterlogging, 5990
ties for, 166
varieties—
descriptive lists, 4257
selection of mother trees, 2385
in various countries, 221, 2386, 2387, 4255
utilization, a book on, 4204
Fuchsia—
antibiotic responses, 2276
nutrition, 6799
propagation by cuttings, 6799, 6803
Fumaria spp. as—
green manure crops, 3536, 4541
medicinal plants, 3536
virus hosts, 627
Fumaric acid, as a fungus-produced toxin, 4651
Fumigation—
of bulbs, corms, etc., 109, 6872
of cacao beans, 5617
of fruits, 86, 193, 582, 1740, 2609, 4417, 4553, 6282-6284, 7290, 7292
residue determination, 5915
soil—*see also under* Soil sterilization—
with ammonium methyl dithiocarbamate (Sipcam C), 2863
with chloropicrin, 100, 160, 777, 870, 2345, 2748, 3087, 4572
with DD, 980, 1397, 2902, 3180, 4995, 6339, 7010
dibromochloropropane (Nemagon, etc.), 1848, 2777, 4139, 4995, 5915
with dichloropropene (Telone), 2902, 4972
with diclorophenyl thiophosphate (V-C 13 Nemacide), 3088
with dimethyl tetrahydrothiadiazine thione (Mylone), 193, 952, 1642, 2863, 3087, 3180, 4921, 6852
earthworm populations affected by, 100
economics of, 3208
with ethylene compounds, 193, 4223, 7010
with formaldehyde (formalin), 100, 160, 777, 5080
with fumigant mixtures, 3049, 3074, 4139
under growing crops—*see also* Nematode control—1439
with hexachlorobutadiene, 2776, 2777
with metham sodium (Vapam, Sistan), 157, 183, 777, 952, 980, 1087, 1226, 1642, 2342, 2345, 2863, 3026, 3087, 3180, 3581, 4134, 4139, 4921, 6576, 6852
methods and equipment for, 183, 2836, 3179
with methyl bromide, 193, 1271, 2073, 2748, 5264

Fumigation—soil (*continued*)—
with methyl isothiocyanate (Trapex), 99, 3049, 3219, 5081, 5953
nitrogen in relation to, 6397, 7010
for parasitic plant control, 2073
for pest control—*see also under* Nematode control—3180, 4682
plant responses to, 99, 1087, 1271, 1848, 2358, 3180
with various compounds, 174, 804, 1138, 4215, 4995, 5148, 5265
for virus control, 4850, 6339
for weed control, 99, 3180, 5265
of stored products, 4223
of trees and plants, with methyl bromide, 109
Fungi—*see also individual species, and plants under* diseases—
antagonism between, 660, 3175, 6379, 6380
auto-inhibiting mechanisms, 7065
edible—*see also* Mushroom—3047, 4957
insect control by, 749, 1475, 6447, 6448
nematode control by, 96, 1140, 3181
pathogenic, on stored medicinal plants, 5362
rhizoplane, plant nutrition affected by, 3131
root exudates attract, 1640
saprophytic, on roots, 4899
virus transmission by, 4940, 4941
Fungicide(s)—*see also* Antibiotics, Sprays *and individual diseases and hosts*—
absorption, translocation and metabolism in plants, 3173, 5927, 6466, 6467
acaricidal action of, 691, 1746, 6384
-acaricide mixtures, 1284, 1743
additives, 1011, 3376, 4970, 6374, 7081
alkyl guanidine and alkyl amine derivatives, 6458
alkylmercaptotetrahydropyrimidines (AMTP), 1202
aminobutane, 5501, 7293
ammonia, gaseous, 170, 6186
application—
as aerosols or smokes, 2273, 6781
by aircraft, 671, 4652, 6376
in ice when hydrocooling fruit, 6170
by injection into plants, 660
by irrigation lines, 2831, 2832, 5458
to soil, 607, 805, 2863, 2995, 3098, 4921, 5080, 5149, 5165, 5178, 6384, 6575, 6779
in transplant water, 805
as a wet dust, 682
approved, a list of, 4132
aryloxythiotrichloromethanes, 5901
as bactericides, 1219, 3168, 6343, 6569
Berkoline, 6354
biological balance affected by, 660, 6411, 7274
as bird repellents, 2821
bis(dimethylthiocarbamylthio)methyl arsine (Tuzet), 68, 4337
a book on, 2272
chinosol (=8-hydroxyquinoline sulphate), 660, 6384
cadmium compounds, 1251
Fungicide(s) (*continued*)—
captan, 68, 682, 699, 763, 875, 2503, 2737, 2863, 2968, 3596, 4337, 4714, 6343, 6606, 6883, 7087
carbamates, various, 1126, 1188, 2272, 4338, 4717, 5318, 6388, 7083
chlorodinitronaphthalene (Gorsatox), 2289
chlorophenyldithiolone (H3944), 805
chlorotolylsulphonyl propionitrile, 1188, 3174
copper—
bordeaux mixture, 1011, 1905, 2590, 4970, 6388, 6456
frost protection by, 2590
insecticide residues reduced by addition of, 3761
naphthenate, 6457
-oil mixtures, 2913, 3713
oxychloride, 875
plants injured or otherwise affected by, 763, 2753, 3713, 4547, 4610
residues, 3939, 5782, 7445
soil toxicity due to, 762, 3597
synergistic action, 2913, 3761
various types, 645, 2752, 2753, 3811, 3886
cycloheximide derivatives (Acti-dione), 1286-1288, 4153, 4914
Delan, 6363
dibromotetrachloroethane, 5501, 6284, 7292
dichlone (Phygon) and related compounds, 1124, 2503
dichlorochloranilinotriazine (Dyrene), 1129, 1432, 2913
dicloran (Allisan), 2272, 2288, 2529, 3017, 3294, 4437, 4438, 5165
p-dimethylaminobenzenediazo sodium sulphonate (Dexon, etc.), 3237, 3270, 5149
dinitrocaprylphenyl crotonate (Karathane, etc.), 4155, 4616, 6359
dinitrophenyl thiocyanate (Nirit), 681, 2745, 6389
dioxy-anthraquinone-sulphonic acid, 5082
diphenyl (biphenyl), 425, 1769-1771, 5499, 5500, 7294, 7295
disease susceptibility affected by, 86, 1126
dodine (Cyprex), 653, 654, 669, 2272, 2290, 2735-2737, 4622-4624, 4714, 6345, 6361, 6458, 6466
earthworms affected by, 762, 5966
ethionine, 5440
ferbam, 642, 2015, 2503, 2590, 3477, 5898, 7087
fermentation of musts affected by, 678
flower thinning by, 6111
frost protection by, 2590
fruit quality affected by, 763, 4626, 4714, 4719
fungi develop resistance to, 1769, 1770, 5499, 5500, 6594, 7292
glyodin, 642, 2735, 6363
growth substance acting as, 5440
-growth substance mixtures, 6363, 6457
insecticidal action of, 744, 4715
-insecticide mixtures, 1284, 3891, 4624

Fungicide(s) (*continued*)—
insecticides as, 3886, 4615
iodine and potassium iodide, 6386
lime, slaked, as, 2746
magnesium sulphate as, 4614
maneb, 1126, 2590, 2913, 2962, 3475, 3596, 5178, 7070, 7078
mercurial, 114, 763, 765, 766, 1188, 1212, 1219, 1251, 2287, 3314, 3327, 3330, 4430, 4621, 4635, 4716, 4717, 4921, 6467
metham sodium (Vapam, etc.), 5927
methylene bis (3,4,6-trichlorophenol), 6723
methyl isothiocyanate and related compounds, 5081
methylpropyl-dinitrophenyl-dimethacrylate (Acricid), 5916
mites' responses to, 2968
mixtures, 94, 642, 805, 1129, 2269, 3174, 6345, 6352, 6389, 6392, 6723, 7070, 7314
Myfusan, 2273
nabam, 3329, 5080
nematicides as, 3328
nematodes controlled by, 3486
nitrogen trichloride, 6186
nitroparaffin derivatives, 5901
oils and oil-based, 191, 2913, 3809, 3810, 5313, 5603
pentachloronitrobenzene (PCNB), 94, 875, 1847, 2858, 3026
phenacridane chloride, 634, 3125
plant growth and metabolism affected by, 68, 1376, 2858, 3152, 3475, 3596, 5898, 6456, 6606
plants injured or otherwise affected by, 87, 94, 191, 478, 669, 763, 875, 1010, 1124, 1127, 1129, 1219, 1222, 1251, 1287, 1302, 2693, 2703, 2735, 2745, 2913, 2942, 2948, 3026, 3152, 3314, 3329, 3810, 4337, 4616, 5178, 5218, 5603, 6345, 6571, 7087
pollen germination affected by, 2503
polybutenes, 153
potassium permanganate, 6359
procaine hydrochloride, 5903
pyridinethione compounds (Omadine, etc.), 94, 2942
radioactive, 6466
rain resistance, 7389
residual action in soil, 5902
residues—*see also above*, copper—112, 114, 765, 1454, 2286-2290, 2858, 4157
salicylanilide (Shirlan), 2754
seed treatment with—*see* Seed
sodium—
dichloroisocyanurate, 6186
orthophenylphenate, 5500
trichlorophenate, 6846
soil micro-organisms affected by, 2332
sulphonamides, 3173
sulphur and sulphur compounds, 686, 2503, 2948, 4553, 4616, 4717, 6283, 6389, 6394, 7274
synergistic action, 764
Fungicide(s) (*continued*)—
systemic, 1202, 1286-1288, 2272, 2942, 5081, 5082, 5318, 5440, 5903, 5927, 7083
testing, 88, 7389
thiram, 763, 764, 1376, 2769, 2821, 2962, 3284, 3292, 3477
tin compounds, 2914, 4889
toxicity to mammals, 2290
trichloromethylphthalimide (Phaltan), 478, 678, 3376
trimethylcyclohexane-N-trichloromethylthio-spiro-hydantoin, 6391
virus inactivation by, 5975
zineb, 478, 763, 764, 1126, 1376, 1454, 2590, 2962, 2968, 3061, 3475, 3477, 3596, 4647, 4648, 4719, 5178, 6392, 6456, 7070, 7071, 7081, 7082
ziram, 763, 2913, 2962, 2968, 3596, 6392
Furfural, crop residues as sources of, 6285
Fusarium—see also Damping-off—
agaricorum, 995
annuum, 6724
bulbigenum—see also Tomato, diseases, fungus, wilt—1234
culmorum, 6815
lateritium—see Gibberella baccata
moniliforme, 7522
nivale, 1250, 1251, 5193, 6447, 6448
orobanchae, 2937, 7160
orthoceras, 4926
oxysporum—
f. *albedinis*, 3748, 7306, 7307
f. *apii*, 870
f. *cepae*, 6685
f. *conglutinans*, 851, 2965, 5001
f. *corianderii*, 1480
f. *cubense—see* Banana, diseases, fungus, panama—
f. *dianthi*, 1169, 6815
f. *fabae*, 952
f. *gladioli*, 1219, 1220, 2962, 3290-3292, 6849, 6850
f. *lycopersici—see* Tomato, diseases, fungus, wilt
f. *melonis*, 4856
f. *narcissi*, 3314
f. *niveum*, 6572
f. *passiflorae*, 1802, 1803
f. *pisi*, 5975
form unspecified, 87, 995, 3219, 3815, 7160, 7262
roseum, 6816
solani, 2963-2965, 4891, 4926, 4927, 7160, 7262
spp., unspecified, 94, 183, 608, 1376, 1986, 2347, 2361, 2368, 3049, 3131, 3175, 3180, 3226, 3311, 3312, 3316, 3365, 3719, 4134, 4222, 5164, 6478, 6497, 6573, 6689, 6772, 6848
tricinctum, 6817
Fusicladium—
carpophilum, 665, 4221, 4635
effusum, 668, 4652, 6373-6376

Fusicladium (*continued*)—
eriobotryae, 5980, 7314
Fusicoccum amygdali, 5970

Galactose—*see under* Sugars
Galls—
artificial and normal compared, 5303
ferulic acid induces, 6870
insects forming, and their control, 7466
Gamma irradiation—*see also* Radiation, ionizing—
chemical changes caused by, 4422, 4423
of fruits and nuts, 2412, 2564, 4422-4424
for pest control, 4216, 6431, 7327
of pollen, 67
of seeds and seedlings, 1068, 1843, 1854, 3861, 4501
of various plants, 1153, 1228, 4216, 5302
of vegetables, 1015, 1068, 1153, 3064, 3065
Ganoderma lucidum, 1823
Ganoderma pseudoferreum, 2023, 3936
Garcinia spp., as rootstocks for mangosteens, 2160
Garden(s)—*see also* Botanic—
Japanese, 5103
public, irrigation of, 3199
for schools, 4198
Gardenia—
fruit set, 4964
growth substance responses, 3382
pests, 1312
Garlic—
antibiotics in, 4985, 6691
bulb composition, 3068, 6688
bulb storage, 3067
diseases, 6689
growing in India, 4976
growth substance responses, 1017
nutrition, 6690
pests, 3066, 3067, 6689
planting, 4979, 4980, 6690
propagation by cloves, 4977, 4978
research in India, 2364
soil fumigation, 3066
varieties, 4977, 6688
Gaura spp., as ornamental plants, 3243
Geissospermum spp., alkaloids from, 5359
Gembloux, Stat. Amél, Plantes fruit. maraîch., A.R., 2344
Gentiana spp., as medicinal plants, 3537
Gentisic acid in plants, 4355
Georgia agric. Exp. Stats, A.R., 4214
Geotropic responses of plants, 1500, 3538, 3800
Geranium (*Geranium* and *Pelargonium* spp.)—
composition, leaf, 3563, 5138
diseases—
bacterial, 3244, 5140, 6836
fungus, 90, 1191, 6836-6838
virus, 2345, 6835
growing in various countries, 5397, 7152
mutations, 6834
nutrition, 3190
Geranium (*continued*)—
oil, 3563, 5397, 7152, 7336
pests, 5140
physiology, 2237, 4112, 5838, 5847
platypetalum, 6809
propagation by cuttings, 1191, 5953, 6803, 6836, 6837
research in Kenya, 2365
soil composts, 3190, 5953
varieties, 5139
Gerbera—
diseases, 87, 3190, 3247
economics, 5142
flowers, cut, packing, 3248
nutrition, 3190
research in Germany, 3246
soil composts, 5141
spray injury, 87
varieties and strains, 3245, 3247
Germany—
crops, 4255, 4473, 4769
economics of fruit growing, 4242, 4243
plant protection and quarantine, 4131
Ghana, crops, 1651
Ghana, woody plants of, a book on, 148
Gherkin—*see under* Cucumber
Gibberella baccata, 2731
Gigantochloa spp., bamboos, 5342, 7108
Ginger (*Zingiber officinale*)—
diseases, 193
nutrition, 2370
pests, 3512
varieties, 2364
Ginkgo biloba—
defoliation, artificial, 6953
embryology, 5244
photoperiodic and other light responses, 5243, 6953
pollen tissue culture, 4081
Ginseng seed treatment, 3545
Girdling—*see* Ringing
Gladiolus—
anatomy, leaf, 1216
breeding and selection, 2350
climate, air pollution, 5163
composition, plant, 5162, 6824
corms and cormels—
disinfection—*see also below*, diseases—1219, 1220, 2962, 3295, 3311, 5164, 5955, 6846
dormancy breaking, 3287, 5161
lifting, 3274, 6853
production, 1207, 5163, 6853
storage, 3295, 5160
temperature treatment, 777, 3287
diseases—
bacterial, scab (*Pseudomonas marginata*), 1219
fungus—
Curvularia spp., 1221, 1222, 3289, 5164, 6848
dry rot (*Sclerotinia gladioli*), 3293, 3294, 3311, 5164

Gladiolus—diseases (*continued*)—
fusarium rots and yellows (*Fusarium* spp.), 1219, 1220, 3290-3292, 5164, 6848-6850
leaf spot, neck rot and core rot (*Botrytis* spp.), 1221
root rots, various, 6848
smut (*Urocystis gladiolicola*), 3295
soil-borne, 6852
virus, 5164, 6847
flowering, factors affecting, 1217, 3287, 5159-5161
flowers, cut, storage, 1223
forcing, 777
growing in plastic containers, 5821
herbicide injury, 6808
nutrition, 777, 1217, 1218, 3293, 5162, 5967
pests, nematodes, 6851, 6852
physiology—
light and temperature responses, 3287, 3288, 5161
radiation responses, 1153
tissue culture, 57
water relations, 1216
planting dates, 5159, 5160
planting, transplanting, 5159
roots, contractile, 1216
roots, exudates, 1012
soil management—
fumigation, 3180, 6852
irrigation, 6473
weed control, 88, 3212, 3373, 6808, 6852
species and varieties, 777, 5158, 5163, 6849
Glass frit—*see* Frit
Glasshouse(s) or greenhouse(s)—*see also* Frames—
benches, construction, 144
boilers, types and efficiency, 2315, 5942
cleaning glass, 2306, 2848
climate—
air—
conditioning, cooling or ventilating, 1101, 2317-2321, 4049, 4221, 4228, 4736, 5943-5946
movement, 162, 2357
pollution, 4049
carbon dioxide concentration, natural, 4194
carbon dioxide, supplementary—*see* Carbon dioxide
control, general, 4191
heating—*see also below*, soil—161, 2314, 2921, 4173, 4192-4194, 4221, 4228, 4736 5034, 5940-5942, 6753
insulation, 2312, 4212, 5939
light, artificial—*see under* Light
light, natural, 2312, 5939, 6754
temperature studies, 162, 2190, 2313, 2316, 5019
crops—
economics, 2, 4187
growing in Great Britain, 2310
pest control, 6793
Glasshouse(s) or greenhouse(s)—crops (*continued*)—
research in Great Britain, 169, 2345
mechanization in, 2321
soil heating, 2845
soil management, irrigation—*see* Irrigation
types—
design and construction, 139, 162, 169, 2310, 2311, 2323, 4189, 4190, 4736, 5019, 5937, 5938
economic aspects, 5969
mobile, 1173, 2310, 2348, 4187
plastic, 139-142, 144, 1101, 2190, 4188-4190, 4221, 4228
pneumatic plastic, 2357
Gleditschia spp., pests, 1316
Glenea spp., on cacao, 3831
Gliocladium roseum, 5631
Gliricidia spp., propagation, 3777
Gliricidia spp., as shade trees, 2128, 4025
Gloeodes pomigena, 6367
Gloeosporium —
album, 6161, 6162, 6362
amphelophagum—see Elsinoë ampelina
fructigenum—see Glomerella cingulata
kaki, 3771
laeticolor, 2741
musarum, 1847, 3811, 5561, 6357, 7376
olivarum, 7327
perennans—see Neofabraea
spp., unspecified, 637, 2336, 4338, 4430, 4431, 5631, 6151
Glomerella cingulata—see also Colletotrichum gloeosporioides—638, 639, 1321, 6357
Glomerella tucumanensis—see Sugar-cane diseases, fungus, red rot
Gloxinia—
economics, 5143
light responses, 5144
nutrition, 1192, 5830, 6791
potting composts, 1192, 5143, 5144, 5955
Glucose—*see under* Sugars
Glutamine biosynthesis, 4101
Glycosides, determination, 1427
Glycosides in plants, fruits and seeds, 1425, 1524, 1526, 1535, 2476, 3514, 3515, 3523, 3532, 3533, 5296, 5297, 5376, 5377, 7119
Glycosmis arborea, 1533
Gnomonia leptostyla, 670
Gnorimoschema operculella, 3488, 5326
Gomphrena globosa, 6338
Gonocerus acuteangulatus, 728
Gooseberry—*see also Ribes*—
breeding and selection, 219, 2602, 4465, 4483
Chinese—*see* Chinese gooseberry
climate, winter hardiness, 2602, 6044
composition, fruit, 471
composition, leaf, 471, 4345
diseases, 2602, 2745, 2775, 4483, 4485
economics, 490
flower bud initiation and development, 2596
fruit set and development, 2596
growing in Australia, 489

Gooseberry (*continued*)—
harvesting, 490
herbicide responses, 285
pests, 2775, 6422
physiology, enzyme activity, 4485
pollination, 2596, 4466
pruning, 2598
soil management, weed control, 178, 280, 285, 5117, 5971, 6185
spray injury, 2745
spray residues, 115
varieties, 221, 222, 489, 490, 2336, 2603, 4484, 4485, 5969
Gophers—*see under* Rodents
Gourd—
ash (*Benincasa cerifera*), 2955
bitter (*Momordica charantia*), 874
bottle (*Lagenaria vulgaris*), 2929
ridge or sponge (*Luffa* spp.), 1630, 2954
Siam (*Cucurbita ficifolia*)—*see under Cucurbita* spp.
snake (*Trichosanthes anguina*), 4742, 6562
Gracilaria azaleella, 1314
Grading—*see also* Machines *and under* Packing—
fruit, 71, 402, 403, 469, 581, 4408, 6131
nursery stock, 3399
vegetables, 68, 71, 2869, 3004
Graft(ing)—*see also* Budding *and* Frameworking*and individual plants under* propagation—
approach, 3636, 3823
cacti, 1257, 1268, 3341
on cuttings under mist, 1790
fungicide-asphalt treatment for, 1321
herbaceous scion on herbaceous stock—*see also below*, solanaceous—2929, 2930, 4838, 4839, 5403, 5960
hybrids—*see under* Hybridization, vegetative
inverted bark rings, 5582
methods, general, 2690, 4507
under mist, 1303
nurse-root, 250, 4276, 6296
plastic materials for, 4055
rosaceous plants, 5113
soft-wood, of woody plants, 4055
solanaceous plants, 1412, 3111, 3129, 3140, 3141, 3170, 5039
tools and machines for, 3129, 4507, 6225-6227
tube, 6025
union—
anatomy, 15, 2635
callus formation at, 521, 6227
necrosis of, 6227
wax dips, 6228
wax, tests on, 5818
wood storage, 1294
Granadilla—*see* Passion fruit
Grape—*see* Vine
Grape hyacinth—*see Muscari*
Graphium sp., on geraniums, 2365
Graphognathus leucoloma, 4761
Grasses—*see* Cover crop plants, Lawns, Weed control of particular types, *and separate species*
Grasshoppers and crickets, control, 2369
Gravity, plant responses to—*see under* Geotropic
Great Britain—*see also* Scotland—
agricultural statistics, 4220
crops, 217, 7165
flora, 5952
horticulture, N.A.A.S. regional experiments in, 2349
horticulture stations, experimental, 169, 2348
Greece, crops, 4556, 4560
Grevillea spp., as shade trees, 3866, 4003, 4009, 4025, 5767
Grewia asiatica, 5793-5795
Griffith Irrigation Res. Stat., A.R., 5963
Groningen, Inst. Bodemvruchtbaarheid, A.R., 2346
Growth—
analytical presentation of plant, 4159
of axillary buds, presence or absence of leaves affects, 4348
factors affecting, a book on, 2218
genetical analysis of, 6760
interrelationships, factors affecting, 4362, 4660
measurements, 2839
micro-organisms on leaves in relation to, 2168
patterns of plants and shoots, 38, 4346
rhythms or phases of plants, 321, 532, 958, 1686, 1794, 1837, 1968, 1992, 2118, 3702, 3877, 4007, 4085, 6908, 7462
soil depth and volume in relation to, 5585
variability of clonal material, 4347
Growth-substance(s)—*see also* Colchicine *and* Herbicides *and under individual crops*—
abscission—*see also* Defoliation *and below*, fruit drop—in relation to, 368, 3705, 4116, 4798
absorption, factors affecting, 363, 2243, 3678, 4352
acetate metabolism affected by, 6619
action, mode of, 47, 2247, 6619
adjuvants, 363
alkaloid formation affected by, 1413, 3448, 5369, 5385
amino acid uptake affected by, 2242
antagonistic effects of precursors, 58
-antibiotic mixtures, 4890
apomixis induced by, 2600
application methods, 2245, 5866
application to soil, 5012
biosynthesis in plants, 949, 5881
books on, 47, 60, 2218
branch angles widened by, 4358-4360
branching affected by, 924, 2249, 4341, 4360
cell—*see also below*, tissue—division or size affected by, 48, 4118, 4766, 5836, 5864, 5865, 5867, 5874
chloroplast movement affected by, 4093

Growth substance(s) (*continued*)—
chlorosis caused by, 959
compounds—
adenine, 2191
allyl trimethylammonium bromide (AMAB), 2350, 3447, 5012, 6557
AP (*i*, *ii*, and *iii*), 949
benzoic acid, 4353
benzothiazoleoxyacetic acid, 7130
benzyladenine, 811, 4763, 4798, 4933
bismaleamic acid, 1401, 1402
bromoethyl trimethylammonium bromide, 3447, 5868
chloroethyl trimethylammonium chloride (CCC), 1154, 1155, 1349, 2248, 2250, 2297, 2350, 3358, 3447, 5012, 5307, 5868, 6923
chlorofluorophenoxyacetic acid, 4380
chloroisopropylphenyl carbamate (CIPC), 5214
chlorophenoxyacetic acid (CPA, etc.), 1112, 2650, 2653, 2654, 3157, 3158, 3359. 4033, 5032
chloropyridazine-6-glycollic acid, 3154
dichlorobenzyltributylphosphonium chloride (Phosfon), 1154-1156, 1349, 2247, 2248, 3190, 3223, 3304, 3447, 4122, 6923
dichloroisobutyrate, 5681
dichloronitrobenzol, 5214
2,4-dichlorophenoxyacetic acid (2,4-D), 56-58, 367, 368, 924, 1756, 2242-2244, 2251, 2650, 3158, 3269, 3705, 3892-3894, 4375, 4503, 4798, 5032, 5471, 5861, 5864, 7031, 7130, 7252, 7495
2,4-dichlorophenoxy acetyl methionine (2,4-DM), 4386
2,4-dichlorophenoxypropionic acid, 58
2,2-dichloropropionic acid (dalapon), 5681
N-dimethylaminomaleamic acid, 5869
dimethylthiocarbamoylthio alkanecarboxylic acid, 5870
ethionine, 5440
ethyl propylthiol carbamate (EPTC), 5871
florigen (hypothetical), 32
fluorouracil, 3251
gibberellin and gibberellic acids, 12, 47, 48, 55, 60-65, 164, 170, 173, 177, 194, 358, 448, 449, 535-539, 590, 593, 597, 820, 892-894, 923-925, 959, 971, 972, 1017, 1021, 1061, 1109-1113, 1181, 1310, 1330, 1399, 1413, 1525, 1556, 1574, 1576, 1577, 1580, 1609, 1649, 1711, 1713, 1943, 2037, 2124, 2191, 2222, 2224, 2226, 2245-2247, 2255, 2343, 2350, 2354, 2359, 2439, 2615, 2647, 2648, 2652-2655, 2879, 2936, 2973, 2982, 2983, 3010, 3084, 3153, 3157, 3158, 3277, 3382, 3420, 3423, 3424, 3447-3449, 3521, 3573, 3706, 3916, 3942, 4024, 4093, 4119, 4120, 4208, 4226, 4278, 4341, 4380, 4386, 4388, 4448, 4450-4452, 4504, 4567, 4657, 4828, 4876, 4917, 4933, 4966, 5063, 5209, 5222, 5263, 5276, 5369, 5385, 5471, 5712, 5713, 5761, 5795, 5816, 5865, 5867,

Growth substance(s)—compounds (*continued*)—
5872-5876, 6076, 6077, 6101, 6181, 6190, 6191, 6243-6246, 6547, 6548, 6557, 6558, 6712, 6776, 6859, 6960, 6992, 7086, 7168, 7247, 7250, 7495
gibberellin-like, 4121
glutathione, 6623
hydrangenol, 61
hydrazine derivatives, 3921, 7478
hydroquinone, 4505
(hydroxycarvacryl)trimethylammonium chloride, 1-piperidinecarboxylate (AMO-1618), 892, 1154, 1155, 2248, 3447, 4122, 7247
indoleacetic acid (heteroauxin) and its derivatives (IAA), 48, 49, 465, 820, 895, 924, 970, 1005, 1331, 2191, 2224, 2252, 2515, 2516, 2600, 2648, 3425, 3897, 3898, 3982, 4114, 4115, 4117, 4355, 4359, 4503, 4505, 4966, 5209, 5864-5867, 5877, 5881
indolebutyric acid (IBA), 465, 1208, 1331, 1404, 1960, 2191, 3425, 3524, 3777, 3863, 4033, 4358, 4386, 4504, 5866
isopropylphenyl carbamate (IPC), 5214
kinetin, 48, 465, 590, 2249, 2250, 3424, 3447, 5816, 5836, 5864, 5865, 5867, 7043
maleic hydrazide, 159, 165, 377, 450, 848, 895, 924, 1014, 1282, 1401, 1402, 1685, 1712, 2191, 2354, 2570, 2898, 3064, 3153, 3440, 3447, 3678, 4215, 4353, 4360, 4503, 5278, 5878, 5977, 7021, 7027-7029, 7031, 7057
mandelnitrile(*dl*-benzaldehyde cyanohydrin), 330
methoxyphenylacetic acid (MOPA), 2251
monochlorophenoxyacetic acid, 3982
monoiodoacetic acid, 2901
naphthaleneacetamide (NAD, NAAM), 372, 4393, 6108
naphthaleneacetic acid (NAA), 165, 325, 362-364, 895, 924, 1131, 1182, 1208, 1331, 1404, 2191, 2252, 2350, 3158, 3425, 3777, 3822, 3897, 3898, 4352, 4375, 4503, 4504, 5209, 5866, 6108, 7031, 7130
naphthoxyacetic acid, 1094, 5032
naphthylphthalamic acid (NPA), 373
naringenin, 328, 971
phenoxy compounds in general, 5866
phenylacetic acid, 7086
phenylboric acid, 59, 1205
phloridzin, 54, 4380
pigments as, 182
potassium bromide, 4505
quaternary ammonium compounds, general—*see also individual compounds*—4122, 7028
sodium azide, 2901
sterolic compounds, 4053
thiophosphoric acid derivatives, 7134
thiouracil, 4211, 6623
thiourea, 590, 2350
tolylphthalamic acid, 1114
trans-caffeic acid, 53, 5882

Growth substance(s)—compounds (*continued*)—
tribromobenzoic acid, 2931
trichlorobenzoic acid, 2931
2,4,5-trichlorophenoxyacetic acid (2,4,5-T), 58, 377, 2510. 2650, 3982, 3984, 43 4380, 4503, 5471, 5472
2,4,5-trichlorophenoxypropionic acid (2,4,5-TP), 58, 325, 358, 365, 366, 2510, 3907, 6112
triiodobenzoic acid (TIBA), 1208, 1921, 2915, 2931, 3154-3156, 4503, 5209, 5279, 7086
triterpenic substances, 4053
vegetable oils, 1403
vitamins as—*see under* Vitamins
yeast extracts, 4503
for cuttings—*see* Cuttings, treatment
defoliation caused by—*see under* Defoliation with chemicals
determination by various methods, 2296, 2297, 3055, 5278
disease incidence or resistance in relation to, 794, 1131, 5078, 5305, 5879, 6246, 6776, 7057
dormancy affected by, 55, 535, 1282, 1685, 2649, 4567, 5214, 5222, 6076, 6077
dwarfing of plants caused by, 159, 1154-1156, 3233, 3304, 3358, 4122, 5012, 5868, 5869, 6923
electrical impulses in plants stimulated by, 5861
enzyme activity in relation to, 892, 2252, 3064, 3983, 4355, 5064, 7247
extraction, 52
exudation by roots, 2251
fibre growth increased by, 1574, 1575
flower(s)—
cut, life prolonged by, 164
development, role in, 5880
inflorescence elongation increased by, 2973
morphology affected by, 1205, 4375
number increased by, 194
sex expression affected by—*see under* Flower
size affected by, 1181
flowering affected by—*see also below*, photoperiodism—32, 448-450, 537, 972, 1110, 1114, 1155, 1181, 1182, 1399, 2224, 2226, 2248, 2901, 3155, 3156, 3251, 3277, 3382, 3921, 4121, 4375, 4386, 4450, 4451, 5065, 5126, 5209, 5279, 5872, 5873, 6181, 6244, 6623, 6712, 7209, 7478
frost protection by—*see* Frost
frost resistance affected by, 1685, 3382, 3675
fruit—
bunch length affected by, 6190
colouring affected by, 171, 376, 2510
composition affected by, 539, 1712, 3158, 4451, 6112, 6244,
cracking affected by, 2655
development, role in, 5880
drop controlled by, 178, 358, 365, 366, 368, 372, 538, 604, 1111, 1756, 3706, 3907, 4226, 4380, 5471, 6112, 7209
Growth substance(s)—fruit (*continued*)—
and flower thinning by, 194, 359-364, 371, 373, 375, 604, 1712, 4208, 4390, 5956, 6104-6108, 6157, 6363
ripening and storage life affected by, 171, 365, 366, 377, 449, 2510, 3157, 4450, 4451, 5472, 6244
set and parthenocarpy affected by, 173, 194, 358, 538, 1094, 1711, 1713, 1943, 1972, 2364, 2654, 2931, 3152, 3153, 3157, 3158, 4033, 4380, 4386, 4388, 4828, 5063-5065, 5108, 5471, 5795, 5879, 6101, 6190, 6191, 7209, 7313
size affected by, 170, 376, 377, 538, 539, 1111, 1711, 1713, 2510, 2650, 2651, 2653, 3157, 3158, 3705, 4380, 4451, 5063, 5472, 5795, 6181, 6245
from fungi, 663
fungicidal action of, 5440
-fungicide mixtures, 6363, 6457
geotropism in relation to, 3800
harvesting, mechanical, facilitated by, 2973
inactivation by plants, 367, 368
inhibiting—*see also above*, dwarfing—
action of, 54, 3153, 5866
in buds, 328, 330, 1282
in fruits, 1649
in plant extracts and residues, 50, 54, 1972, 2886
in roots, 949
in seeds—*see* Seed germination inhibitors
injury to plants—*see also* Herbicides, effects —536, 1110, 1112, 1205, 3359, 5471
interaction between applied and endogenous, 48, 1282, 2191, 4503, 4766, 5868
interaction between various applied—*see also below*, synergistic effects—5865, 5867
juvenility affected by, 1330, 2192
latex production in hevea affected by—*see* Hevea
for layering, 7461
leaf—
ageing affected by, 4116
chlorophyll content affected by, 5868, 5875, 7247
cuticle penetration by, 4353
shape affected by, 3154, 5868
size affected by, 5868, 5874, 7247
stomatal movement affected by, 7034
light interaction with—*see also below*, photoperiodism— 63, 2246, 2982, 3424
for marcotting, 1273, 3898, 7311
metabolism in plants, 165, 2244, 4117, 5870, 5876, 5881
nucleic acid metabolism affected by, 57
nucleic acids as, 3450
nutrient—
sprays applied with, 1094, 1921
status and metabolism affected by, 47, 1094, 3573, 5066, 5222
translocation affected by, 4115
nutrition affects action of, 5877

Growth substance(s) (*continued*)—
osmotic pressure affected by, 49
parthenocarpy induced by—*see above under* fruit set
peat extract as a, 7086
pest populations affected by, 4024, 4657, 6607
phenocopies induced by, 5145
phenols interact with, 4355
and photoperiodism—*see also above*, light—535, 1155, 1556, 2226, 2228, 2647, 4211, 4452, 5126, 5222, 5851, 5852
photosynthesis affected by, 325, 1111, 5064, 5874, 5875
pigment formation affected by, 3158
pigments as, 182
plant anatomy affected by, 1576, 1577
plant composition affected by, 924, 1113, 1525, 1577, 2898, 3440, 4215, 4505, 4657, 5277, 5874, 7495
in plant organs—
buds, 55, 328, 330, 1282, 3297, 3403
bulbs and tubers, 3055, 3064, 4766
flowers, 5162, 5879, 5880, 7358
fruits, 352, 535, 1649, 1972, 2515-2517, 5880
galls and tumours, 5078, 5879
leaves, 52, 53, 3297, 4121, 4876, 5305, 5876, 5882
roots, 65, 949, 4900
seeds and young seedlings—*see also* Seed germination inhibitors—14, 51, 923, 1897, 2517, 2563, 4900, 4917
shoots, 47, 54, 2192, 2297, 4876, 5127, 5882
various, 60, 2564, 3675, 4355, 4448, 4449, 6607
pollen responses to—*see* Pollen germination
protoplasm viscosity affected by, 4120
radioactive, 367, 2244, 4352, 4353
residues, determination, 7252
respiration affected by, 56, 892, 1111, 2242, 3064, 3983, 4763, 4966, 5064, 5874
reviews on, 2240, 2241, 4119, 5880, 5881
root nodulation inhibited by, 65
root responses—*see also* Cuttings, treatment—51, 465, 925, 1109, 1331, 4053, 5866, 5867, 7130
runner formation in strawberries affected by—*see* Strawberry runners
seed formation in fruits affected by, 794, 1711, 5534, 6244
senescence in relation to—*see also above*, leaf ageing—2252
shoot suppression by—*see also* Tobacco suckers—64, 4503
storage life—*see also above*, flowers, cut, *and* fruit ripening—of vegetables prolonged by, 68, 811, 3064, 4763, 4798
sucrose accumulation in sugar cane affected by—*see* Sugar-cane, sucrose content
sugar affects action of, 4503
sugar translocation affected by, 2208
synergistic effects, 61, 4503, 4933, 5865, 6077, 6191
Growth substance(s) (*continued*)—
temperature interaction with, 3424, 5012, 5209, 5222
tendril formation affected by, 6557
tissue differentiation affected by, 2931, 7130
translocation, 48, 60, 62, 1114, 2243, 2247, 2251, 4352
transpiration and water relations affected by 925, 5064, 5878
transplant establishment improved by, 194
tuber formation affected by, 1208
tumours induced by, 4114
for virus control, 3269, 5073
vitamins applied with, 2191, 4503
Guadeloupe, crops, 7204
Guadua spp., as fibre plants, 3502
Guard cells—*see* Stomatal
Guava—
composition, fruit, 1819, 7566
diseases, cause uncertain, "fatio" disease, 7459
fruit thinning, 194
growth substances, endogenous, 5879
growth substances, responses, 194, 1943
as a medicinal plant, 3519
nutrition, 1944, 7459
parthenocarpy, 1943
pollination, 3899
propagation, vegetative, 193, 3897, 3898, 5660
research in India, 2364, 2371, 2372
varieties, 5979
Guayule products, resins, 7184
Guibourtia carrissoana, 5353
Guignardia bidwellii, 4643
Guignardia citricarpa, 7276
Guinea, crops, 5661
Guizotia abyssinica, 1604, 7194
Gums and mucilages—*see also* Resins—from various plants, 205, 1581, 1583, 5361, 5407, 7162-7164
Gutta-percha, plant sources and extraction, 7182
Guzmannia spp., flower bud induction by acetylene, 6905
Gymnosporangium fuscum (=*G. sabinae*), 656, 657
Gymnosporangium juniperi-virginianae, 642
Gypsophila paniculata, as a medicinal plant, 3538

Habrochila ghesquierei, 2376
Hail—
damage to plants, 715, 1409, 4537, 5274, 7020
protection, shade trees as, 7540
storms, prevention of, 2172, 2173, 5808, 5809
Halimodendron spp., rootstocks for, 6806
Haltica lythri, 6212
Hamamelis mollis, 3206
Hamamelis virginiana, 6806
Hancornia speciosa, 5796
Haplothrips tenuipennis, 2147

Hardiness—*see* Frost resistance
Hares—*see under* Rodents
Harpalus rufipes, 2291
Harrisina brillians, 6441
Harrow Res. Stat., Ont., bien. Rep., 4215
Harvesting—
bulbs and corms, machines for, 3274
castor beans, machines for, 1611
coconuts, 7402
fruit—
bulk handling, 162, 386-388, 402, 2348, 2359, 2520, 2521, 3731, 4407, 5956, 6125-6128, 7285
clipping *vs.* plucking, 1760, 1761
containers for picking, 398, 3729
dates for, in the U.S.A., 2379
economics and work studies, 389, 396, 490, 1757, 2519, 2578, 2595, 4460, 5992, 6123
injuries to fruit or tree during, 2531, 6128-6130, 6138-6140
machines for, 392, 393, 396, 397, 488, 579, 1758, 1759, 1781, 2528, 2584, 3730, 4415, 4416, 4472, 4639, 5525, 5956, 5970, 6124, 6137-6140, 6273, 6274, 7284
platforms and ladders, 345, 580, 1781, 2530, 4405, 6087
sprays to aid, 2528
trailers and trolleys for, 394, 468
hops, machines for—*see under* Hop picking
nuts, dates for, in the U.S.A., 2379
sugar cane—*see* Sugar-cane
tobacco—*see* Tobacco
vegetables—
bulk handling, 6565
economics and work studies, 6505, 6531
machines for, 944, 1060, 2304, 2873, 2924, 3090, 4735, 4772, 4836, 4897, 5089, 6506
trolleys for, 468, 6784
Hawaii(an)—
agric. Exp. Stat., bien. Rep., 193
crops, 3774
medicinal plants, 5356
Sugar Planters' Ass. Exp. Stat., A.R., 5701
tannin plants, survey of, 7200
Hawthorn—*see Crataegus* spp.
Hazel—*see under* Cob nut
Heat—*see also* Temperature—
injury to plants, translocation of, 2232, 4111
injury to stems, 5648
resistance of fungi, 39
resistance of higher plants, 39, 3747, 4593
treatment—*see also individual plants*—
against bacteria, 3338, 6593
of bulbs and corms, 166, 777, 1006, 1007, 1234, 4973, 5955, 5969, 6869, 6872, 6878
for dormancy breaking, 5221
of fruits, 1740, 4439, 6171
against fungi, 1843, 3732-3734, 7362, 7364
against insects, 1740
of insects to induce sterility, 4695
mutagenic effects of, 40
against nematodes—*see* Nematode control
Heat—treatment (*continued*)—
of seeds—*see* Seed
virus susceptibility increased by, 6338
against viruses—*see* Virus control
Heather—*see under Erica* spp.
Hedera—see Ivy
Hedges—*see also* Windbreaks—trials at Rosewarne, 1150
Helenin content of flowers, 5157
Helenium spp., insecticidal plants, 3539, 3540
Helianthus tuberosus—see Artichoke, Jerusalem
Helichrysum bracteatum, 1193
Helicoceras nymphaerum, 6883
Heliconia spp., diseases, 5550
Helicopter—*see under* Aircraft
Helicotylenchus—see also Nematodes—*multicinctus*, 1848
Helicotylenchus spp., on bananas, 1849
Helicteres isora, 7133
Heliothis—
armigera, 1135, 1136, 2781, 3184, 3488, 5087
phloxiphaga, 3566
punctigera, 3488
virescens, 1444, 7094
zea, 1134, 6651
Heliothrips haemorrhoidalis, 3646
Helix aspersa, 1754
Helleborus spp., research in Great Britain, 5969
Hellula undalis, 4816
Helminthosporium—
carbonum, 6707
halodes, 5631
vagans, 5192
Helopeltis—
antonii, 5619
bergrothi, 3832
clavifer, 3831
Hemerocallis varieties, 6867
Hemicellulose constitution in apple wood, 320
Hemileia coffeicola, 3885
Hemileia vastatrix—see Coffee diseases, fungus, rust
Hemitarsonemus latus, 1738, 1745
Hemlock (*Conium maculatum*) alkaloids, 7128
Hemp (*Cannabis sativa*)—
anatomy, 1576
breeding and selection, 1571, 7159
composition, 3575
diseases, 7160
essential oil from, 1578
fibre content, determination, 1571
fibre quality, 3572, 5404
flower sex expression, 1572
grafting, 5403
growing in various countries, 551, 7158
growth substances, responses, 1574-1577, 3573, 4211
harvest date, yields affected by, 3571
nutrition, 3572, 5404
parasitic plants on, 7160
pests, 3574
physiology, 1577, 3573
planting, spacing, 1573

Hemp (*Cannabis sativa*) (*continued*)—
pollination, 1572
production and trade, 1570
seed production, 1573
seed treatment, 1577
varieties, 1571, 5402
Hemp, Manila—*see* Manila hemp
Hemp, sunn (*Crotalaria juncea*), 1575
Henbane—*see Hyoscyamus*
Henna (*Lawsonia inermis*), 7151
Heracleum sphondylium, 2237, 3516
Herbicide(s)—*see also* Defoliation, Trees and shrubs, destruction, Weed control *and individual weeds*—
absorption, translocation and metabolism, 80, 2988, 4353, 4523, 4524, 4874, 4875, 4914, 5888, 6924
application—
with additives, 80
aerial, 87, 7512
drift, 773
droplet size, 962
equipment, 81-84, 2265, 6490
as granules or pellets, 801, 1270, 4128, 4130, 4804
in irrigation water, 3689
low volume, 962
methods compared, 7233
compounds—*see also under* Growth-substance compounds—
allyl alcohol, 1294, 1913
amiben, 282, 4835, 5043, 6489
amitrole, 967, 1681, 3215, 3929, 4152, 4314, 4523. 4875, 6517, 6556, 6924
approved, a list of, 4132
arsenicals, 6896
CDAA, 2853
CDEC, 2853, 4804, 5043
N-(3-chloro-4-methylphenyl)-2-methylpentanamide (Solan), 6744
chlorophenoxypropionic acid, 4788
chlorpropham, 88, 802, 2843, 3212
classification and nomenclature, 2264
cyanamide compounds, 3057, 3086, 3688
2,4-D, 78, 1086, 2884, 2988, 3325, 3433, 3587, 3972-3974, 4523, 4524, 4788, 4874, 5888, 6620, 6924
dalapon, 283, 1580, 1922, 2068, 2368, 3215, 3577, 3873, 3977, 3978, 4013, 7512
DCU, 3433
2,4-DEP, 6180
di-allate (Avadex), 4127
dichlorophenyl-methyl-isopropylphosphoramidothioate (Zytron), 967, 6897, 6899
N,N-dimethyl-a,a-diphenylacetamide (Diphenamid), 5042, 5891
dimethyl tetrachloroterephthalate (DAC-893, Dacthal), 4128, 6810, 6897
dimethyl xanthogen disulphide, 88
dinoseb and its derivatives, 88, 962
diphenylacetonitrile, 5189
Herbicide(s)—compounds (*continued*)—
N,N-di-(*n*-propyl)-2,6-dinitroanaline (Dipropalin), 5189, 5891
N,N-di-(*n*-propyl)-2,6-dinitro-4-trifluoromethylanaline (Trifloralin), 5891
diquat, 88, 165
diuron, 282, 1580, 3974, 4314, 4542, 4543, 5459, 6798
DNOC, 285
Dutom, 2273, 3085
EPTC, 4130
fenac, 3976
fenoprop, 3215
maleic hydrazide, 967
MCPA, 962, 1086, 1580, 2856, 3057, 3587, 3972-3974, 4914
MCPB, 4818
methyl bromide and related compounds—*see under* Fumigation, soil
mixtures, 77, 177, 496, 557, 4312, 4913, 6057, 6058, 6705
monuron, 86, 282, 802, 4126, 5459
neburon, 282
oils, 1039, 3086, 4993, 6708
paraquat, 165, 3929, 7488
propham, 285, 3433
simazine, 79, 282, 1294, 1580, 3209-3214, 3373, 3689, 3929, 3980, 4312, 4353, 4458, 4542, 5117, 5459, 6798, 6809, 7338
sulphuric acid, 2854
2,4,5-T, 5888, 6620
2,3,6-TBA, 1086, 6897
TCA, 285, 2987, 3433, 3978, 4129
triazine compounds—*see also above*, simazine—79, 278, 554, 559, 3974, 4125, 4315, 4353, 5459. 5771, 5886, 5887, 6703, 6704, 6706, 7337
urea compounds—*see also above*, diuron, etc.—77, 554, 5449, 5886
decomposition, persistence and movement in soil, 557, 2344, 4313
effects—
on crops—
composition, 3059
disease resistance, 86
flower sex expression, 5681
injury, chemicals to prevent, 6556
injury, general, 77, 88, 278, 284-286, 554, 802, 962, 1086, 1580, 1681, 2068, 2856, 2884, 2986-2988, 3056, 3057, 3086, 3212-3214, 3310, 3325, 3587, 3689, 3974, 3980, 4013, 4314, 4459, 4475, 4524, 4756, 4788, 4881, 4898, 4913, 4914, 5116, 5538, 5679, 5771, 6517, 6592, 6683, 6808, 7423, 7488, 7509
nectar secretion, 6924
tainting, 1923
cytological, 4127
factors affecting, 78, 4804, 4914, 5888, 6683
on insects, 967
physiological, 79, 86, 4125, 4126, 4129, 5886, 5887, 6619, 6620, 6708

Herbicide(s)—effects (*continued*)—
on seed germination, 2843, 2988, 3057, 4127, 5889
evaluation methods, 88, 6592, 7509
persistence—*see above*, decomposition, *and below*, residues
radioactive, 80, 4353, 4523, 5888, 6924
residues, 2987, 4152
reviews and general recommendations on, 77, 2348, 4208, 5885
weeds' sensitivity to, 195, 6705
weeds stimulated by, 5449, 5538
Herbs—
culinary—*see also* Spices *and individual plants*—6474
general, a book on, 3507
medicinal—*see* Medicinal plants
Herpobasidium deformans, 6798
Heterodera—*see also* Nematodes—
carotae, 1041
humuli, 3600
marioni, 1495
rostochiensis, 3182
schachtii, 2902
spp., unspecified, 96
Heteronychus spp., on sugar cane, 3995
Heterosis—*see under* Hybrid vigour
Heuchera sanguinea, 6803
Hevea—
climate, sun scorch, 2020, 7491
climate, wind damage, 2019, 3927, 3928
clones, 2007, 2008, 2011-2013, 2029, 5691, 5692, 7481-7483
composition—*see also below*, latex *and* nutrition—leaf, 3930, 3931, 5923, 7489
diseases—
algal, 2022
fungus—
black thread, shoot rot, stripe or leaf fall (*Phytophthora palmivora*), 2007, 3938
mildew (*Oidium* spp.), 2007, 3937
root rots (*Fomes* and *Ganoderma* spp.), 2023, 3936, 7493
non-parasitic, fasciation, 2021
non-parasitic, of tapping panel, 7492
economics, 3926
flower biology, 2010
growth, girth increments in relation to tapping, 2032
herbicide injury, 7488
latex—*see also below*, tapping—
bacteria in, 5698
biosynthesis, 2025-2027
composition and properties, 2009, 7495
contamination by copper, 3939
physiology, 2027, 5695, 7495
stimulation, 2007, 2028, 2030, 2031, 2033, 5695-5697, 7494
nutrition—
leaf analysis as a guide to—*see above*, composition, leaf
Hevea—nutrition (*continued*)—
manuring and major elements, 2007, 3927, 3931-3933, 5694, 7490
minor elements, 2017, 3934
pests, insects, 2024
planting on old rubber areas, 3926
planting, transplanting old trees, 3925
pollination, 2007, 2010, 3935
propagation—
by budding, 7484
by cuttings, 2015, 4056
methods, clone performance affected by, 2014
pruning, 2020
research in—
Cambodia and Vietnam, 2008, 2009, 5689
Ceylon, 2007
the Congo, 196
Malaya, 3924, 5690
South America, 200
West Africa, 5978
root induction, factors affecting, 2426
rootstocks, 2375, 5693
soil management—
cover cropping, 3927, 7485, 7486
intercropping, 2016
weed control, 2007, 2018, 3775, 3929, 7338, 7487, 7488
spray or dust, contamination of latex by, 3939
spray retention on leaves, 4136
tapping panel protection, 2009, 2033, 5697
tapping systems, 2028-2030, 2032, 3940, 5693, 5695, 5696
tree poisoning, 7496
Hexaploid plants, 1204
Hibiscus—
esculentus—*see* Okra
spp., ornamental—
breeding, 5245
composition, 6956
flower pigments, 1332
juvenility, 2192
pests, 1312
potting methods, 6807
propagation, 1294, 1331, 2192, 6805, 6955
seed germination, 3397
Hickory, origin, 6300
Higginsia hiemalis, 4631, 5977, 5990, 5914, 6360, 6369
Highway—*see* Road
Hippeastrum—*see also* Amaryllis—diseases, 3190
Hippophae rhamnoides, 2581, 6200
Hoes—*see under* Machines
Holland—
crops, 781, 6786
horticultural research, general, 2164, 4038
horticultural research, Minist. Agric., A.R., 167
Holly—*see also Ilex* spp.—
composition, 3399, 5247
diseases, 5970, 6958

Holly (*continued*)—
growth substances, responses, 1155
herbicide responses, 3214
marketing and storage, 178
nursery stock grading, 3399
nutrition, 3398, 5246, 5247
pests, 1313, 1315, 3384, 5226, 6794, 6957
photoperiodic responses, 1305
propagation by cuttings, 1305
research in Canada, 2351
weed control, 6957
Hollyhock pollination, 3249
Hollyhock tissue culture, 31
Holocacista—see Antispila
Holochilus sciureus, 7527
Homadaula albizziae, 1316
Homalinotus coriaceus, 5632
Homalodisca coagulata, 6341
Homona coffearia, 7559
Honey—*see* Nectar
Honeysuckle—*see under Lonicera* spp.
Hong Kong Dir. Agric., A.R., 4233
Hop(s)—
Ass. Grs new Var., annu. Booklet, 3578
bines, composting, 3599, 5413
bines as fodder, 3611
breeding and selection, 1585, 3583, 3584
climate—
air pollution, 3590
disease incidence affected by, 3593
micro-, 3585
rainfall responses, 3601
temperature and sunshine responses, 3601
composition, cone, 1593, 1596-1598, 3583, 3601, 3608-3610, 5409, 5414, 5416, 7167, 7174
composition, plant, 4046, 5410
cone—*see also above*, composition, *and below*, drying, picking *and* storage—
chemistry, 3608, 3610, 5416, 7173-7176
formation and development, 3585
quality, factors affecting, 1593, 3583, 3596, 3606, 5409, 5414, 7172
quality standards, 3607
diseases—
fungus—
black root-rot (*Phytophthora* sp.), 1586
downy mildew (*Pseudoperonospora humuli*), 1590, 2269, 3593-3597, 5412, 7170
wilt (*Verticillium albo-atrum*), 3578, 3598, 4213, 5411, 5413
general, 3583
virus, 1592, 3578, 3591, 3592, 3600, 4213, 7169
drying, 172, 1596, 3604, 5415
ecology, 172
economics, 3580, 3589
flowers, male, variability, 5410
growing in various countries, 3579, 5408, 7165
growth—
dormancy, 1590
habit, 1593
Hop(s)—growth (*continued*)—
number of shoots retained per plant, 7166
-substances, responses, 7168
herbicide responses, 3587
nutrition, manuring and major elements, 3588, 3598, 7167
nutrition, minor elements, 3597, 4871
pests, 102, 2278, 3583, 3600, 4142, 7171
picking, 1589, 1594, 1595, 3578, 3580, 3602, 3603, 5409, 7172
planting, spacing, 1589, 3585
propagation, 1587, 4056, 4216
pruning and training, 1591, 1595, 5409, 7166
research in—
Germany, 3581, 3582
Great Britain, 169, 176, 1584, 3578, 7165
New Zealand, 2339
soil management—
cover cropping and green manuring, 3586, 5411
irrigation, 3589
weed control, 3587
storage, 3605, 3606, 7173
varieties, 172, 1585, 1586, 1591, 5409, 5410
wirework—
height of, 1589
number of wires or strings per plant, 7166
strength of, 1588
Hoplocampa—
flava, 6445
minuta, 4661, 4707
spp., unspecified, 2811, 4568
testudinea, 4705
Hoplolaimus—see also Nematodes—
proporicus, 1848
spp., unspecified, 808, 2082
uniformis, 97
Hormones—*see* Growth-substances
Horse-radish diseases, 2858, 5965
Horse-radish growing in Great Britain, 2348
Horticultural—*see also separate countries*—
Congress, int., Nice, Rep., 4202
education in schools, a book on, 4198
engineering in Holland, 161
holdings, classification, 1
research in—
Cyprus, 2164
Denmark, 2164
Finland, 4038
Holland, 2164, 4038
Hungary, 4038
Poland, 2164
South Africa, 2164
Spain, 4038
Horticultural Research, a new periodical, 208
Horticulture in various countries—*see under separate countries*
Hot-water treatment—*see under* Heat
House plants—*see also individual plants*—
potting composts, 5955
House plants, spray injury, 5953
Huckleberry nutrition, 2589
Huckleberry varieties, 2336

Hüll, hop research at, 3581, 3582
La Hulpe, Stat. provinc. Rech. sci. Vitic., A.R., 2615
Humidifiers and mist apparatus for glasshouses, 5947
Humidifiers and mist apparatus for propagation—*see also* Cuttings, mist—4056, 4058, 4059
Humidity, relative, measurement and recording of, 162, 4619
Humidity, relative, plant responses to, 4067, 5838
Hungary, crops, 2392, 2622
Hungary, horticultural research, 4038
Hyacinth—*see also* Bulbs—
  bulb production, 1207
  bulb storage, 1224
  forcing, 1224
  temperature responses, 5167
  weed control, 88, 171
Hyaliodes harti, 4724
Hyalopterus amygdali, 2773
Hybrid vigour—
  in raspberries, 4487
  in tobacco, 1364, 5262, 6973
  in vegetables—*see also* Tomato—2917, 2928, 4824, 6520
Hybridization—*see also* Pollination—
  intergeneric, 1265
  interspecific, 1204, 1206, 1227, 2420, 2616, 3250, 3411, 3412, 4271, 5213, 5245
  vegetative, 1046, 1047, 1053, 2929, 3111, 3341, 4782, 5025, 5026, 6720
Hydrangea—
  composition, 1334
  forcing, 3368
  growing in Australia, 1333
  growth substances, endogenous, 61
  growth substances, responses, 61, 2343, 6960
  nutrition, 1307, 3196, 5107, 6959
  pests, 6793
  pollen germination, 2255
  propagation by cuttings, 6802
  soilless culture, 6959
  weed control, 5117
Hydrocleis nymphoides, 2235
Hydrocooling—*see under* Storage, cooling, *etc.*
Hydroecia xanthenes, 816
Hydrogen, permeability of seed coats to, 10
Hydrogen, radioactive, 2678, 7039
Hydroponics—*see* Soilless culture
Hylemyia—
  antiqua, 1013, 3063, 4225
  brassicae, 87, 159, 773, 854, 2909, 3063, 4812, 5971, 6499, 6542-6544
  cilicrura, 1445, 7089
  floralis, 854, 4225, 6542
  trichodactyla (=*H. liturata*), 1445, 7089
Hyoscyamus spp. (mainly *H. niger* vars *annuus* and *biennis*)—
  growing in Belgium, 2347
  growth substances, responses, 7134
  light and temperature responses, 1534, 5379
Hyoscyamus spp. (*continued*)—
  seed treatment, 5379
Hypericum calycinum, 6809
Hypericum perforatum, 7120
Hyperin in plants, 6308
Hyperomyzus lactucae, 6647
Hyphaene thebaica, 7195
Hyphantria cunea, 4701
Hyponomeuta—see Yponomeuta
Hypothenemus hampei—see Stephanoderes
Hysteroneura setariae, 2085

Iberis—
  amara, 31
  sempervirens, 6803
  spp., weed control, 6809
Icerya purchasi, 1749
Idiocerus—
  atkinsoni, 1982, 1983, 5670
  clypealis, 1982, 1983
  spp., unspecified, 7466
Ilex—see also Holly—*paraguariensis* (yerba maté), 5431
Ilex spp., breeding, 6798
Illicium spp., spice and poisonous, 7112
Illinois agric. Exp. Stat., bien. Rep., 5965
Impatiens—
  balsamina, 20
  holstii, 1194
  spp., composition, 6839
  spp., growth substance responses, 4120
  sultani, 6803
Imperata spp., control, 2072, 3577, 5679
Inarching, graft—*see* Grafting, approach
Incompatibility—*see* Pollination *and* Rootstocks *and separate crops under* pollination *and* rootstocks
India—*see also individual states for reports*—
  crops—*see also* Sugar-cane *and* Tobacco *under* growing *and* varieties—
    fruit and plantation, 1479, 1635, 1872
    various, 1476, 5405, 7113
    vegetables, 4904, 4976
  essential oil plants, 3520, 3560
  fruit pests, 710
  medicinal plants, 3520, 5357, 5358
  ornamental trees and shrubs for, 1297
Indian—
  agricultural Res. Inst., A.R., 194
  Agriculturist, a new periodical, 207
  centr. Coconut Cttee, work of, 3836
  Coffee Bd, Res. Dep., A.R., 1904, 1905
  Coun. agric. Res., A.R., 195, 5981
  Inst. Sugarcane Res., A.R., 7498
  Tea Ass., sci. Dep., Tocklai, A.R., 7534
Infrared radiation—*see under* Light
Inositol in plants, 4211
Insect—*see also* Pests—populations in orchards, sampling, 6410
Insect traps, 180, 738, 742, 748, 1741, 2797, 2798, 4696, 4725, 6439
Insecticidal plants, various individual, 3540, 5975, 6536, 7181

Insecticide(s)—*see also under* Acaricides *and* Sprays *and individual pests and hosts*—
absorption and translocation by plants, 111, 4726, 6541
activity, climate affects, 4668
additives, 6500, 6578, 6632, 7094
aldrin, 113, 160, 845, 846, 1044, 2291, 4997
application—*see also under* Aircraft, Dusters *and* Spray equipment—
as aerosols, smoke or vapour, 103, 108, 769, 4699
as electrically charged dusts, 5908
to individual plants, various aspects, 180, 6413, 6438, 6446
in irrigation water, 5458
quantities required, 6461
to soil, various aspects, 188, 1584, 2952, 2953, 2972, 4684, 5327, 5911, 6541, 6544, 6598
various methods compared, 4726
approved, lists of, 4132
arsenical, 1453, 2291, 2356, 6464, 6465, 7095
baits—*see under* Fruit flies
BHC—*see also below*, lindane—1938, 2148, 2149, 3888, 3941, 5757
biological balance affected by, 862, 2089, 4724, 6411
a book on, 2277
butoxythiocyanodiethyl ether (Lethane 384), 6536
calythrone, 5975
chlordane, 1253, 3333
DDT—
activity and persistence, 857
biotic effect on pest population, 4724, 6451
formulations and additives, 6632
insects' resistance to, 2796, 4683, 5744
mites' responses to, 2968
mixtures with other insecticides, 1799
plant growth and injury responses, 110, 117, 6504
residues on crops and their analysis, 195, 1753, 1799, 2291, 2830, 4154, 4703
residues in soil, 117
toxicity to bees, 769
demeton, 4726
demeton-methyl (methyl demeton), 726, 744, 857, 1584, 2771, 4678, 5917, 5918
diazinon, 108, 1314, 1799, 2794, 3022, 7089
dichlorodiphenyl dichloroethane (DDD, TDE, etc,), 747, 2790, 2800
dichlorvos (DDVP), 108
dieldrin, 113, 845, 846, 1013, 1044, 2291, 3184, 6465
diethyl dichlorophenyl chlorovinyl phosphate, 859
di(*p*-ethylphenyl) dichloroethane (Perthane), 4724, 4762
diethyl ethylthioethyl dithiophosphate (Di-Syston), 857, 1313, 2971, 2972, 5918
diethyl pyrazinyl phosphorothioate (Zinophos), 1443, 3088, 6544
dimefox, 1584, 4726
Insecticide(s) (*continued*)—
dimethyl—
aminoxylyl methylcarbamate (Zectran), 6500, 6796
diaminotriazinylmethyl dithiophosphate (Menazon, PP. 175), 4156
dibromodichloroethyl phosphate, 103
dithiophosphoryl phenylacetic ethyl ester, 759
methylthiotolyl thiophosphate (Lebaycid), 731, 2786, 2787, 4686
oxobenzotriazinomethyl dithiophosphate (Gusathion, Guthion), 116, 363, 720, 2291, 2769, 2790, 2794, 2800, 2805, 2830, 6440
DNC and derivatives, 4615, 6459
earthworms affected by, 5966
endrin—*see also* Rodenticides—113, 1044, 2291, 4684
ethion, 104, 2794, 3063, 7279
ethyl-*p*-nitrophenyl benzenethiophosphonate (EPN), 2150
ethylene dichloride, 4698
flavour effects on crops, 2148, 2149, 2370, 3088, 3888, 6473
fluorine compounds, 105
fruit set affected by, 4226
fruit or flower thinning by, 360, 363, 364, 2505, 2506, 6100, 6104-6107
fumigant action of, 4698
fungicidal action of, 1799, 3886, 4615
-fungicide mixtures—*see* Fungicides
fungicides as, 744, 4715
granulated, 2972, 6541
growth-substance activity stimulated by, 363
heptachlor, 846, 3063
herbicides as, 967
insects' resistance to—*see also above*, DDT—747, 2800, 4687, 6544
isodrin, 1044
isopropyl methylpyrazolyl dimethylcarbamate (Isolan), 111
lindane (gamma-BHC)—*see also above*, BHC—108, 110, 845, 846, 2968, 3089, 4705
malathion, 115, 363, 2858, 3022, 4762, 4955, 6632
methoxychlor, 5612
methyl dimethyldithiophosphorylacetamide (Rogor, Dimethoate), 159, 719, 1312, 1313, 2770, 2788, 2864, 3027, 3721, 3761, 3765, 7328
methylnaphthyl carbamate (Sevin), 116, 152, 360, 364, 755, 2505, 2506, 2790, 2794, 2830, 4226, 4694, 4762, 5540, 5913, 6107, 7280
mites' responses to, 152, 2968, 4705
nematodes controlled by, 1849, 5905, 6871
octachlorotetrahydromethanephthalan, 5326
oils, 3727, 4615, 4690, 6459, 7276
parathion—*see also* Acaricides—
copper fungicides enhance action of, 1799, 3761

Insecticide(s) (*continued*)—
fruit drop reduced by, 4705
growth-substance activity stimulated by, 363
mixtures with other insecticides, 1799
plant growth and injury responses, 110, 846
residues on crops and their analysis, 105, 1753, 1799, 2830, 2858, 3022, 3761, 3764, 3765, 4762, 4955, 6465, 7567
phenkapton, 108, 110, 4668
phenylethylisothiocyanate, 6536
phorate (Thimet), 857, 1313, 2971, 2972, 5130, 5918, 6873
phosphamidon (Dimecron), 1584, 2770, 2864, 3764
plant—
composition affected by, 1044, 6440, 7276
growth and injury responses—*see also above* DDT *and* parathion—110, 726, 845, 846, 1044, 1443, 1938, 2693, 2788, 2971, 3888, 3941, 4615, 4686, 4723, 5130, 5757, 5905, 5953, 6504, 6632, 6633, 6873, 6874, 7094, 7134
sources of—*see* Insecticidal
polybutenes, 153, 4690
polychlorocamphene and polychloropinene, 2793
pyrethrum, 5909
radioactive, 4726
residues—*see also above*, DDT and parathion—
on crops and their analysis, 112, 113, 115, 116, 720, 1453, 1753, 1800, 1985, 2150, 2291, 2347, 2356, 2692, 2830, 2858, 3022, 3027, 3089, 3184, 3764, 3765, 4151, 4156, 4762, 4955, 4997, 5130, 5612, 5917, 5918, 5979, 6462, 6465, 7279, 7280, 7328 7560
general aspects and reviews, 2286
in soil and their persistence, 117, 773, 2291, 4684, 6464, 6471, 7095
rotenone, 943
ryania, 744
schradan, 4726
seed treatment with—*see* Seed
as slug killers, 5913
soil micro-organisms affected by, 2332
solvents, stickers and wetters—*see above under* additives
systemic—*see also* Acaricides *and individual insecticides*—111, 2971, 4726, 5226, 5654, 5905, 6413, 6541, 6873
tests, 88, 2212
thiodan, 720, 744, 2805, 6446
thiophosphoric acid derivatives, 7134
tin compounds, 6901
toxicity to bees—*see* Bees
trichlorphon (Dipterex), 744, 857, 2858
Institut(e)(o)—*see also place names*—
Biologico, S. Paulo, work at, 5801
Encouragement Rech. sci. Ind. Agric. (I.R.S.I.A.), Brussels, A.R., 2347
Institut(e)(o) (*continued*)—
nac. Invest. agron., Madrid, Rep., 4216
nat. Étude agron. Congo (I.N.E.A.C.), A.R., 196
Rech. Huiles Oléag. (I.R.H.O.), Paris, A.R. and research by, 1986, 3914, 7335
Inter-American Cacao Center, Turrialba, A.R., 1854, 7380
Interstocks—*see also* Apple *and* Pear—for stone fruit trees, 1673, 2378, 4297
Inula royleana, 7135
Inulin content of plants, factors affecting, 6513
Iodine—
determination, 5922
fungicidal action of, 6386
nutrition of vegetables, 795, 3138
radioactive, 3138
Ionized air, plant responses to, 5348
Ipomoea—
spp., as medicinal plants, 3541
spp., seed treatment, 4052
tricolor, 5146
Ireland, soft fruit research, 2580
Ireland, vegetable growing, 6678
Iresine spp., physiology, 4120
Iridomyrmex humilis, 716
Iris—*see also* Bulbs—
bulb curing, disinfection and storage, 178, 1226, 3298, 5167, 5183, 5184, 6869
bulb production, 1207
diseases, 1225, 1226
flowering, forcing, 5167, 5183, 5184, 6869
growing in the U.S.A., 6868
nutrition, 777, 5967
physiology and biochemistry, 2187, 3297, 3298
planting dates, 5184
seed composition, 2187
soil management, fumigation, 1226
soil management, weed control, 88, 171, 2358, 3212
species and varieties, 3296
Irish Journal of Agricultural Research, a new periodical, 206
Iron—
absorption and translocation, 25, 1422
application, foliar, 315, 316, 1921, 2675, 4334, 4335, 4338, 6268
application, by injection into soil, 315
chlorosis—*see also* Chlorosis, lime-induced —a review, 150
complex, non-respiratory, in roots, 5833
content of plants, factors affecting, 1637, 1708, 2471, 2959, 3640, 5208, 5686, 6900
deficiency—
metabolic effects of, 1488, 4334, 5832
symptoms, 1860, 1994, 2336, 4068, 4599, 5246, 6710, 7383
virus symptoms affected by, 4598, 4600
determination, 2300, 2301
diseases affected by, 661

Iron (*continued*)—
interrelationships with antibiotics, 2276
interrelationships with other elements, 498, 1095, 1921, 2105, 2469, 3139, 3372, 3697, 4963
nutrition of—
fruit and nut trees, deciduous—*see also* Apple nutrition—636, 661, 2674, 2675
fruit and plantation crops, evergreen—*see also* Citrus nutrition—1860, 1921, 3641, 3876, 3913, 7383
ornamentals, 2346, 3190, 3372, 5107
small fruits, vines, 6270
various plants, 1488, 7157
vegetables, 4999
radioactive, 7156
sources, chelates, 25, 1095, 2465, 3372, 5107, 5208, 5778, 6270, 7244
sources, various, 1921, 2674, 2675, 4335, 4338, 4999
toxicity, 2848, 4068
Irradiation—*see under* Gamma, Light, Radiation, Ultrasonic *and* X-ray
Irregular bearing—*see* Biennial or irregular
Irrigation—*see also* Soil moisture *and* Water—
of crops—*see also individual crops under* soil management—
fruit and nut trees, deciduous—*see also* Apple—295, 296, 2363, 2474, 4226, 5976, 6059, 6063
fruit and plantation, evergreen—*see also* Citrus, Coffee *and* Sugar-cane—1963, 1990, 2123, 2370, 3633, 3641, 3642, 3842, 4006, 5584, 5768
ornamentals, 1294, 1328, 3303, 3396, 6473, 6881
small fruits—*see also* Strawberry *and* Vine—5970
various, 1580, 1605, 1606, 3589, 4064, 7179
vegetables—*see also* Beans (*Phaseolus*) *and* Tomato—166, 773, 792, 797, 890 910, 954, 1004, 1014, 1054, 2352, 2862, 2883, 2890, 2897, 4235, 4753, 4754, 4834, 4909, 5058, 5826, 5969, 6471, 6473, 6483
disease incidence and resistance in relation to, 910, 1099, 1379, 2075, 6354
economics, 3589, 3685, 5826, 5827
equipment and structures—*see also below*, methods—
for automatic supply, 1961, 2203, 2321, 4196, 5237, 5947
for fungicide application, 2831, 2832, 5080
general, 3199, 5826
precision, for experimental purposes, 118
for sprinklers, 2052, 2123, 2201, 2202
fertilizer application with, 773, 3962, 4227, 4791, 5207, 5458, 5726
for frost protection—*see* Frost protection
fungicide application with, 5080, 5458
in glasshouses and frames, 2202, 2203, 2321, 2348, 4196, 5104, 5827, 5828, 5947
insecticide application with, 5458
Irrigation (*continued*)—
methods—*see also above*, crops *and* equipment—
furrow, basin and other surface, 1054, 3589, 3683, 3958, 4455
sprinkler, 1054, 1690, 1691, 2053, 3589, 4455, 4754, 5457, 5458, 6059
sub-, 792, 3204
trickle, 3136
needs, determination of—*see also* Soil moisture—2054, 2200, 2357, 2574, 3145, 3642, 5059, 5768, 6059, 6060
nematicide application with, 689, 3720
research in Great Britain, 2348
salinity problems, 459, 566, 1700, 2960, 5829, 6272, 7229, 7230
time, night *vs.* day, 2897
transpiration losses a guide to—*see above under* needs
water—
artesian, 797
composition, 2848, 5176, 7229
temperature, 773
Isaria fumosorosea, 749
Ismene festalis, 3299
Israel, crops, fruit and nuts, 5442
Italy—
crops—
fruit, 212, 213, 234, 1652, 2388, 2410, 2556, 2557, 2614, 4244, 4251, 4256, 4476, 5995-5997, 6206, 7213-7215
nuts, 212, 598
olives, 3750, 7316
ornamentals, 3191
vegetables, 838, 991, 3121, 6676, 6733, 7111
Ivy—
growth substance responses, 1323
juvenility, 1330, 2192
nutrition, 20
propagation, 20, 1330, 2192
Ixia spp., air pollution, 87

Jackfruit—*see also Artocarpus*—
as a medicinal plant, 3519
pests, 6442
propagation, 4032
wood composition, 2156
Jamaica—
Banana Bd, Res. Dep., A.R., 3789
Coconut Ind. Bd, Res. Dep., A.R., 5622
crops, coffee, 5636
Minist. Agric., A.R., 4234
Sugar Manuf. Ass., Res. Dep., A.R., 5702
Jaman (*Eugenia jambolana*), 4231
Japanese beetle (*Popillia japonica*), 4144, 5911
Japanese hornwort, 796
Jasmine growing in India, 1335
Jasmine propagation, vegetative, 6802
Jersey, St. exp. Stat., Howard Davis Fm, Trinity, A.R., 777, 5967
John Innes Inst., A.R., 163, 5968
Johnson grass—*see Sorghum halepense*
Jordan, Deir Alla Res. Stat., A.R., 4235

Jujube pollination, 2163
Juniperus spp.—*see also* Conifers—
nutrition, 6945
pests, 6794
photoperiodic responses, 1305
propagation, 1294, 1303, 1305, 3205, 6798
spray injury, 6798
Juvenility in plants, 245, 1330, 2192, 2230, 2871, 4087, 4088, 4276, 5243

Kaki (*Diospyros kaki*)—*see under* Persimmon
Kakothrips robustus, 3000
Kalanchoe spp. (mainly *K. blossfeldiana*)—
mutations, 3345
physiology—
carbon dioxide fixation, 4095
nitrogen metabolism, 4101
photoperiodic responses, 3344, 5197, 6909
temperature responses, 6909
topping, 5197
varieties, 6909
Kale—
climate, air pollution, 4752
climate, frost hardiness, 4044
composition, 824, 2894
diseases, 2906
leaf-area index in relation to yield, 6532
leaf wax synthesis, herbicides affect, 4129
nutrition, 2872, 2894
pests, 853, 4809, 4815
polyploidy, induced, 2870
seed germination, 4752
spray residues, 4762
storage, 6533
varieties, 2893
Kalmia spp., as weeds, 82, 2460, 4475
Kapok—
clones, 3576
growing in Madagascar, 3576
production and trade, 1570
Kentucky agric. Exp. Stat., A.R., 164
Kenya—
Coffee Res. Stat., A.R., 1906
crops, 1899, 7177, 7178, 7391
Dep. Agric., A.R., 2365
trees and shrubs of, 4199
Kirton exp. Husb. Fm, N.A.A.S., work at, 3272, 3308
Kochia childsii, 3197
Koelreuteria paniculata, 3401
Kohl-rabi—
breeding and selection, 2896
composition, plant, 46
flowering, factors affecting, 832, 2895, 2896
growing under glass or plastic, 2312
harvesting, 2873
light responses, 793
planting, spacing, 844, 6534
seed treatment and sowing date, 832, 2895
seedling production, 792, 793, 2895, 2896
soil—
heating, 2845-2847
management, irrigation, 792, 2897
Kohl-rabi—soil (*continued*)—
management, mulching, 6480
tuber splitting and lignification, 2896, 2987
Kola—*see Cola*
Kolkwitzia amabilis, 5220

Labour—
efficiency—*see also* Economics *and under* Harvesting—in horticulture, 162, 2196, 2522, 2578, 3217, 3394, 4930, 5175, 5803, 5804, 6079, 6476, 6531, 6789
requirements for—
drying pyrethrum, 1602, 1063
fruit production, 2489, 4390, 4540, 6123, 6208, 6209
hop picking, 3603
ornamental crop production, 3220, 6788, 6879
potting plants, 6807
vegetable crop production, 981, 6505, 6679
Laburnum pests, 1294
Laburnum propagation, 1294, 6801
Lachnosterna congsanguinea, 5745
Lachnosterna spp., unspecified, 3995
Lactones in plants, 3539, 3540
Lagenaria vulgaris (bottle gourd), 2929
Lalang grass—*see Imperata*
Lamium spp., weed control, 6809
Lansium domesticum, 2161
Laphygma exempta, 2086
Laphygma exigua, 3184
Larch (*Larix* spp.), weed control, 3209
Lasioderma serricorne, 1448, 1449
Laspeyresia—see Codling moth, Fruit moth, oriental, *and Cydia and Enarmonia* spp.
Lathyrus—see Sweet pea
Latvia, crops, vines, 507
Laurel—*see Laurus and Prunus laurocerasus*—
Laurus nobilis (bay laurel), 1556
Lavender and lavandin (*Lavandula* spp.)—
growing in South Africa, 7152
oil, 1560
pests, 1559
propagation, 6803
Lawns and sports turf—
construction, 1243
diseases, 1250, 1251, 2269, 3327-3330, 5192-5194, 5959, 6885
grasses and other plants—*see also Cynodon, Festuca and Zoysia*—
Agrostis spp., 1244, 6893
evaluation of, 1242, 3321
herbicide responses, 6895, 6897
identification and nomenclature, 1241, 6886, 6887
Kentucky bluegrass (*Poa pratensis*), 1244
mixtures, 3324, 6892
Puccinellia distans, 1244
resistance to wear, 1246, 6892
St. Augustine grass (*Stenotaphrum secundatum*), 6891
seed germination, 3323, 5889

Lawns and sports turf (*continued*)—
management—
cutting, 1245, 1246, 3321, 6891-6893
frost and rain protection, 6888
mulching, 3324
nutrition, 1245, 2350, 4221, 5830, 5977, 6889-6891
soil amendments, 6889
weed and moss control, 76, 159, 1247-1249, 2358, 3215, 3325, 3326, 4123, 4208, 4214, 5189-5891, 5964, 5977, 6885, 6894-6899
pests—
earthworms, 1253, 3333, 6902
insects, 1252, 1254, 3331, 3332, 6885, 6901
mites, 3331, 5195
research in various countries, 1240, 2358, 4228, 5970
soil salinity, 1244
Lawsonia spp., as dye plants, 3559, 7151
Layering—*see also* Marcotting—fruits, temperate, 4293, 4515
Layering tropical plants, 195, 4234, 7461
Lead content of plants, 4046
Leaf(ves)—
abscission—*see also* Defoliation—2394, 4116, 5522
analysis—
figures—
interpretation of, 303, 317, 498, 1919, 3399, 3874, 3931, 4159, 4322, 4326, 4331, 4333, 5747, 6587, 6590, 6945, 7208, 7336, 7356, 7395
petiole and/or shoot analyses compared with, 3640, 4307, 7489
soil analysis compared with, 930, 1695, 5688, 6812, 6824
variations due to season, 567, 1637, 1918, 2676, 2677, 3640, 4518, 5436, 6587
variations due to various factors, 567, 1918, 3754, 3930, 4323, 4455, 5638, 6587, 7231, 7237, 7395, 7489
methods, 3789, 4160, 4161, 5046, 5956
sampling for, 3789, 3930, 4322, 6587, 7489
anatomy, light conditions affect, 36
area—
flowering and fruiting in relation to, 4881
measurement, 118, 132, 133, 2639, 2640, 4183, 5398, 6230
rooting of cuttings in relation to, 6041
yield in relation to, 4962, 6532
cation-exchange capacity, 6266
cellular fractionation, 4166
curvature, critical radius of, 7022
cuticle—
composition and structure, 648, 5284
disease invasion in relation to, 648, 6174
permeability to chemicals and light, 4096, 4353
wax biosynthesis and composition, 4129, 4167, 5860, 5871
exudates, 2932
Leaf(ves) (*continued*)—
micro-organisms on, 2168
mitochondria—*see under* Mitochondria
movement in beans, 4085
nutrient absorption by—*see under* Nutrition, foliar
optical properties, 35, 3707, 5841
residues, toxins from, 6308
role in root respiration, 41
sections, cutting transverse, 6887
senescence, growth substances in relation to, 4116
size, composition in relation to, 38
stomata—*see* Stomata
storage methods, 7489
surface—*see also above*, cuticle—spray deposits on, 4136, 6463
surface wetness, determination of, 134, 768, 4185
temperature studies, 3672, 4231, 7227
thickness, photosynthesis in relation to, 5842
Leafhoppers—*see also separate species under scientific names*—186, 4601, 4687, 5072, 6341, 6496, 6649
Leatherjackets, 4906
Lebanon, crops, bananas, 3786
Lecanium—see also Neolecanium—
corni, 4709, 6794
coryli, 4672, 6412
spp., unspecified, 6794
Lee Valley exp. Hort. Stat., N.A.A.S., A.R., 776
Leek—
bolting, 3070
composition, 4985
diseases, fungus, 4983
economics, 4981, 6693
growing in Europe, 3069, 6692
nutrition, 157, 835, 2850, 5953
planting methods and spacing, 1020, 3071, 4982
research in Holland, 6473
seed sowing dates and methods, 3070, 6693
soil managment, rotations, 4981
soil management, weed control, 88, 2854, 4758
varieties, 1018, 1019, 2354, 2840
Legumes—*see also individual crops*—diseases, virus, 2858
Legumes, residues, toxins in, 4751
Lemon—*see under* Citrus
Lemon grass—*see Cymbopogon*
Lepidiota spp., on arecanuts, 1829
Lepidium sativum—see Cress
Lepidosaphes—
beckii, 1749, 5491, 5984, 7274, 7275
ficus, 6452
ulmi, 6447
Leptomastidea abnormis, 6425
Leptomastix dactilopi, 6425
Leptosphaeria maculans—see Phoma lingam
Leptothyrium pomi, 6367
Leptothyrium theae, 2141

Lettuce—
bolting, 159, 972, 974
breeding and selection, 773, 2345, 3008, 4931, 4939
climate, air pollution, 4752, 5811
composition, leaf, 46, 2861, 2959, 4876, 5926, 6510
composition, seed, 970
diseases—
cause unknown, corky root, 5977
fungus—
anthracnose (*Marssonina panattoniana*), 978
collar rot (*Botrytis* and *Sclerotinia* spp.), 157, 979, 980, 3019
damping-off (pathogen unspecified), 3013, 4942
downy mildew (*Bremia lactuca*), 6650
grey mould (*Botrytis cinerea*), 2273, 3017, 4942
Olpidium brassicae, 4940, 4941
powdery mildew (*Erysiphe cichoracearum*), 6650
Septoria lactucae, 3020
general, 3016, 4937
non-parasitic, 976, 4936, 4938
resistance, 773, 4939
virus—
aster yellows and yellows, 186, 2859, 4217, 6649
big vein, 773, 3018, 4940, 4941
mosaic, 977, 4939, 6647, 6648
tomato spotted wilt, 1121
economics, 4830, 4930, 6637
growing—
in the Congo, 784
under glass and plastic, 4730, 4737
in temperate countries, 3005, 3006, 6637
growth substance responses, 61, 159, 971, 972, 4114, 4120, 4763, 4872
harvesting, 981, 6652
herbicide responses, 6484
leaf shape, light conditions affect, 974
nutrition—
carbon dioxide, 3014, 6643
manuring and major elements, 777, 974-976, 2336, 2345, 3015, 4936, 5971, 6491, 6644-6646
minor elements, 2345, 2851, 6493
sodium and salt injury and tolerance, 796, 2848, 2959
packing, cooling, 982, 6652
packing, plastics wraps for, 3023
pests—
aphids, 773, 977, 2355, 4943, 6499
insects, various, 858, 859, 6649, 6651
mites, 3021
nematodes, 2337, 4760
physiology—
enzyme activity, 3011
light responses, 793, 794, 3013, 6642
phosphate metabolism, 4934
Lettuce—physiology (*continued*)—
of seed germination—*see below*, seed
research in Europe, 2347, 6471, 6473
research in the U.S.A., 5959, 6636
root injury, plant residues cause, 4751
seed—
coat permeability to gases, 10
germination, factors affecting, 61, 777, 791, 830, 3010, 4751, 4752
germination, physiology and biochemistry of, 971, 3009, 3011, 4934, 6641
production, 973, 977, 6648
sowing rates, 3012, 6640
storage, 788, 4051
treatments, 805, 972, 3009, 3020, 4932, 4933, 6640, 6641
seedling production, 177, 792, 793, 4061, 6642
soil—
management—
flooding for disease control, 3019
heating, 2845, 2846
irrigation, 166, 792
mulching, 4936, 6480
rotations, 4751
sterilization, 4061, 4936
weed control, 166, 800, 2854, 2855, 6484, 6489
temperature, bed orientation affects, 4935
types, 975
soilless culture, 4830
spray injury, 3180
spray residues, 2288, 2858, 3022, 4151
storage and transport—*see also above*, packing—811, 6507, 6652
varieties—
a book on, 3007
in the Seychelles, 202
in temperate countries, 166, 969, 3006, 3008, 4931, 6638, 6639
Leucaena glauca, 1903, 2000, 3867, 5407, 7163
Leucinodes orbonalis, 6728
Leucojum spp., bulb production, 1207
Leuconostoc mesenteroides, 6523
Leucopholis coneophora, 1892
Leucopholis lepidophora, 1828
Leucopis spp., as predators, 718
Leucoptera—
dohertyi, 1933
meyricki, 1933, 7446
sp. on coffee, 2268
Levington Res. Stat., Rep., 159
Lichens, control, 2141, 4559
Light—*see also* Photoperiodism—
air pollution damage in relation to, 2180
artificial or supplementary—*see also* Forcing—
economics, 6755
horticultural uses, reviews on, 4175
plant responses—
cuttings, 3365
fruit crops, 1687, 2565, 4441

Light—artificial or supplementary—plant responses (*continued*)—
ornamentals, 776, 1190, 3335, 3349, 3357, 3358, 3365, 5144, 6914
vegetables, 162, 793, 3013, 3147, 4212, 4745, 4826, 4827, 5036, 6642, 6755
sources and control, 162, 1156, 1177, 3357, 4174, 4745, 4826, 4827, 5034, 5125, 5935, 6755
coloured—*see also below*, infrared *and* ultraviolet—
growth substances interact with, 63, 78, 2246
plant responses to, 36, 896, 958, 1500, 1534, 2220, 2234, 2981, 2982, 4091, 5280, 6621, 6622
seed germination affected by, 1373, 4932, 4934
and darkness cycles, 4095, 5050, 5125
disease development or resistance affected by—*see also below*, ultraviolet—588, 2905
infrared and far-red—
growth substances interact with, 2246
plant responses to, 1500, 2220, 4091, 4827
seed germination affected by, 3009, 3424, 4934
intensity—*see also* Shade—
intercrop yields in relation to, 2459
in orchards, 335, 2459
plant responses—
cuttings, 1587
ornamentals, 776, 1281, 3232, 3288, 4088, 5124, 5125, 5183, 6922, 6953
small fruits, 2586, 4474
tropical and sub-tropical tree and bush crops, 1795, 4005, 5454
various crops, 36, 1534, 3077
vegetables, 36, 63, 887, 958, 974, 1104, 2981, 2982, 3094, 3139, 4827, 5035, 5036
various physiological and growth responses, 5013, 6953
vitamin content of fruits in relation to, 4399
leaf absorption and reflection, 35, 3707, 4090, 5841
nutrition of plants affected by, 1048, 3096, 3128, 3139
receptors in plants, 2225
reflectors for glasshouse crops, 158, 162, 5045
seed germination affected by—*see* Seed germination
-temperature interactions, 4745, 5034
transmission through fruit, 6117
transmission through glass and plastic, 139, 142, 143, 5811, 5939
ultraviolet—
bacteria inactivated by, 5698
capsaicin determination by, 6727
cuticle penetration by, 4096
diseases—
fungus, detection by, 7066
Light—ultraviolet—diseases (*continued*)—
fungus, sterilization by, 6152
virus, inactivation by, 5975
plant responses, 5848, 6567
various physiological and growth responses —*see also above*, intensity—1795, 2512, 4090, 5968
Lignin biosynthesis, enzymes associated with, 4355
Lignin characteristics, virus infection affects, 6319
Ligustrum spp.—
growth substance responses, 159, 1155
nutrition, 20
propagation, 20, 5109
varieties, 3402
Lilac—*see also Syringa*—
climate, frost damage, 3383
diseases and disorders, 2269, 3403
flowering, forcing, 5221
pests, 3404
physiology, sucrose utilization, 5221
physiology, temperature responses, 5221
propagation, 5110, 6961
Lilium—*see also* Lily—*candidum*, 5186
Lilium speciosum, 3190
Lily—*see also under* Bulbs—
arum—*see under Zantedeschia*
breeding and selection, 1227, 1228, 2350, 3300, 3302
bulb disinfection and heat treatment, 6871, 6872
bulb production and storage, 1207, 3301, 3303
composition, 3305, 5185
flowering, factors affecting, 3301, 3303, 3304, 5185
flowers, cut, prolonging life of, 164
growth, insecticides affect, 6873, 6874
growth substance responses, 164, 1154, 3304, 4122
nutrition, 3305, 5185
pests, 1230, 3273, 6871, 6872
physiology, photoperiodic responses, 3300, 3303
physiology, temperature responses, 3304, 5167
planting, time of, 3301
pollen development, 2258, 2364, 5186
seed treatment, 3273
soil management, watering, 3303
soil management, weed control, 1229
tumour formation, 6870
water—*see* Water-lily
Yearbook, R.H.S., 3300
Lily-of-the-valley—
breeding, 3306
crown harvesting, 3274
diseases, 3306
flowering, 3306, 3307, 5167
as a medicinal plant, 3306
nutrition, 3306
pests, 3306

Lilly-of-the-valley (*continued*)—
physiology, temperature responses, 5167
varieties, 1231, 6875
weed control, 6876
Limacodydes spp., on bananas, 5540
Lime (*Citrus*)—*see under* Citrus
Lime (*Tilia*)—*see under Tilia* spp.
Liming—*see* Calcium, Soil pH *and crops under* nutrition
Linaloöl determination, 1776
Linaria maroccana, 5145
Liothrips oleae, 5524
Liothrips vaneeckei, 6872
Lipids in plants, 957
Lippia asperifolia, 3519, 3542, 5353
Lippia nodiflora, 1535
Liquidambar spp., ornamental, 1336
Liriodendron tulipifera, 5222, 6794
Liriomyza pusilla, 6501, 6502
Liriomyza spp., unspecified, 6500, 6503, 6577, 6783
Litchi—
climate, temperature responses, 7309
composition, 1782, 5517, 7310
fruit packing and storage, 1783
fruiting, irregular, 7309
growing in various countries, 5514, 5515
growth substance responses, 1960
nutrition, 1782, 7309
pests, 5516,
propagation and rootstocks, 1960, 2372
research in India, 2364, 2371
Lithium toxicity to citrus, 3700
Lobelia nicotianaefolia, as a medicinal plant, 1536
Lobelia spp., hybrids, interspecific, 3250
Lochnera rosea—see under Vinca
Loganberry—
genetical variation in, 2354
pests, 6423
soil management, weed control, 178, 5890, 6185
varieties, 221
Lolium spp., as lawn grasses, 3321, 6892
Lonchocarpus sericeus, 3543
Long Ashton agric. hort. Stat., A.R. and work at, 165, 5800
Longidorus spp., unspecified, 5975
Longitarsus waterhousei, 3566
Lonicera spp.—
diseases, 6798
frost damage, 3383
growth substance responses, 1310
propagation by cuttings, 1294, 6802
temperature responses, 5220
Loquat—
diseases, fungus, 5980, 7314
flower initiation and development, 326, 327, 7312
fruit set and development, 377, 7312, 7313
fruiting, biennial, 327
leaf, ultraviolet light absorption by, 4096
mutations, 237
Loquat (*continued*)—
physiology, temperature responses, 2449
pollination, 7312, 7313
propagation, 4216, 7311
research in India, 2371, 2372
shoot growth, 327
Loxagrotis albicosta, 942
Luddington exp. Hort. Stat., A.R., 166, 5969
Luffa—
acutangula, 1630, 2954
cylindrica, 808, 1630, 3628
echinata, 3544, 7136
graveolens, 7137
spp., composition, 5432
spp., disease resistance, 6570
Lunaria biennis, 2230, 4087, 4088, 5850
Lungan (*Euphoria longana*), 7332
Lupinus spp.—
nutrition, 5107, 5832
physiology, 5832, 5875
seed treatment, 4053, 5875
Lyamungu, Coffee Res. Stat., Res. Rep., 7412
Lychnis alba, 7138
Lycopene content of tomato, 1146
Lycopersicon—see also Tomato—
hirsutum, 1125, 5024
peruvianum, 1125
pimpinellifolium, 1125, 6496
Lygus hesperus, 1024, 4989
Lygus spp., on brassicas, 853
Lymantria dispar, 107
Lymantria sp., on mango, 3910
Lyonetia clerkella, 739, 6435
Lytta vesicatoria, 1796
Macadamia—
composition, leaf, 193
diseases, 3645, 3749, 5519
growing in Hawaii, 5518
nut harvesting, husking and storage, 4232, 5518
propagation by grafting, 1785
rootstocks, 2370, 3749
varieties, 1784
Macaulay Inst. Soil Res., A.R., 4219
Machines and implements—*see also* Apparatus; Drying; Dusters; Fertilizer application; Fumigation, soil, methods and equipment; Herbicide application equipment; Pruning, mechanized; Spray equipment; Tools; Tractors; *and* Weed control methods—
for climbing coconut and other palm trees, 3838, 7402
cultivating, ploughing, etc., 128, 137, 509, 2305, 2571, 3872, 5718, 5930, 6260-6262, 6479, 7424, 7470
for digging planting holes, 2175, 4356
for distributing rodent baits in artificial runs, 1755
for extracting palm oil, 1995
grading and packaging, 403, 581, 3004, 4408, 4414

Machines and implements (*continued*)—
harvesting—*see also* Harvesting, Hop picking, Sugar-cane *and* Tobacco—for—
bulbs and corms, 3274
castor beans, 1611
lily-of-the-valley, 3274
olives, 5525
peas, 468
strawberries, 468
hoes, 5931
for lifting nursery stock, 138, 2199
for mowing orchards, 137
for mulching, 6355
planting, for—
nursery plants, 6079, 6249
onion sets, 1008
strawberries, 451
tobacco, 3431, 5253
trees, 2175
various crops, 4171
vegetables, 4979
vines, 509, 6249
platforms—*see* Harvesting fruit *and* Pruning
for potting, 4060
for removing soil from tree rows, 6355
for removing strawberry runners, 2571
seed—*see also below*, threshing—
drills—*see* Seed
extraction, 2425
sorting, 4739
soil compaction by—*see under* Soil
for staking and trellising plants, 509
for sterilizing soil, 5823
for stringing tobacco—*see* Tobacco, machines
for thinning fruit, 369, 370, 6137
for thinning root crops, 4802
for threshing, husking or hulling seeds, 4739, 6634, 6635
for training cucumber vines, 4836
for transporting labour while working, 2304, 4897
for transporting soil, 4833
for uncovering vines, 6253
various, for—
glasshouses, 2321
tropical and sub-tropical crops, 4026, 4027
vineyards—*see* Vine
Macrocentrus homonae, 2145
Macrophoma theicola, 2141
Macrophomina phaseoli, 5137, 7400
Macropsis fuscula, 6423
Macrosiphum—
euphorbiae, 6647
pisi, 966, 967, 4217, 6536, 6605, 6607, 6630
scoliopi, 1230
solanifolii, 3592, 6764
Macrosteles fascifrons, 186, 6496, 6649
Madagascar, crops, 1820, 3576
Madagascar, edible cacti in, 2159
Magdalis ruficornis, 2778
Magnesium—
absorption and translocation, 2677
Magnesium (*continued*)—
application, foliar, 315, 1827, 4320, 4339, 5146
contents of plants, factors affecting, 567, 796, 900, 930, 1038, 1389, 1395, 2688, 2959, 3399, 3461, 5185, 5247, 5686, 6492, 6751, 7356, 7395, 7489
contents of plants, seasonal variations in, 567
deficiency, plants' sensitivity to, 7243
deficiency symptoms, 156, 1638, 1821, 1860, 1994, 2336, 4068, 4340, 5686, 6710, 6880, 7383
determination, 2300, 2301, 4161, 5921
interrelationships with other elements—*see also* Potassium—466, 636, 796, 906, 1902, 1703, 1861, 1906, 2135, 2469, 3692, 3696, 3757, 4787, 4868, 6751
leaching from leaves, 4340
metabolic effects in plants, 636, 4093
nutrition—*see also* Apple, Citrus, Tobacco *and* Tomato *under* nutrition—
diseases and pests affected by, 1827, 3293, 4614
of fruit and nut crops, temperate, 2474, 2577
of fruit and plantation crops, tropical and sub-tropical, 1782, 1860, 1986, 2138, 3843, 5625, 5694, 7383, 7392,
of ornamentals, 5106, 5146
soil or plant analysis as a guide to, 317, 7395
of vegetables, 2336, 4093, 6492, 6659
toxicity, 4068
Magnolia—
composition, leaf, 3399
composition, pollen, 2254
nursery stock grading, 3399
pests, 6794
propagation, 3203, 3206, 5109
species and varieties, 1337, 5248
Mahonia spp., propagation, 6798
Malacosoma americanum, 6796
Malacosoma neustria, 6951
Malaya—
crops, 3835, 7377
Dep. Agric., A.R., 197
Rubber Res. Inst., A.R., 3924
Malic acid—*see also under* Acids—contents of plants, 1818, 2227, 4036, 5023, 5196, 5270
Malpighia punicifolia and/or *M. glabra*, 193, 1819, 3698, 4033, 5797, 7566
Malus—*see also* Apple—
sargentii, 1338
sikkimensis, 165
species, various—
apomictic, 165
composition, 2476, 4164
diseases, virus, 1339
ornamental, 1338
pests, 5226
propagation by grafting, 5113

Malus—species, various (*continued*)—
as rootstocks for apple—*see under* Apple rootstocks
as rootstocks for ornamentals, 6798
as virus indicators, 165
sylvestris, 2425
Mammillaria spp., cacti, 3340, 6910
Mandarin—*see under* Citrus
Manganese—
absorption and translocation, 3139
application, foliar, 315, 318, 319, 569, 570, 1827, 2464, 2673, 3372, 3701, 4335-4338, 4342, 5733, 6729, 7017, 7245, 7357, 7545
availability, soil pH affects, 4999
contents of plants, factors affecting, 1637, 1708, 2959, 3640, 4781, 5686, 6590, 7489
deficiency, indicator plants for, 1705
deficiency symptoms, 1860, 1994, 2017, 3876, 4068, 4547, 6710, 7357, 7383
determination, 2300, 2301, 7268
interrelationships with other elements, 1096, 2105, 3139, 3372, 3697, 3970, 4342, 4454, 4963, 6751, 7245, 7545
metabolic effects in plants, 17, 156, 3139, 4094, 4548, 5845
nutrition—*for separate crops see each under* nutrition—
diseases affected by, 661, 1827, 2744
of fruit and nut trees, deciduous—*see also* Apple—319, 661, 2464
of fruit and plantation crops, evergreen—*see also* Citrus—1860, 2017, 3876, 3934, 4018, 7357, 7383, 7545
of mustard, 5347
of ornamentals, 319, 1281, 2346, 3372, 5106
of small fruits and vines, 319, 569, 570, 2744, 4547, 4548,
of tobacco, 7017
of vegetables, 1096, 2891, 3139, 4999, 6590, 6659
sources—
carbamates, 4335-4338
chelates, 318
frits, 4999
industrial wastes, 5347
various, comparisons between, 1709, 6590
toxicity, 17, 1096, 2336, 2345, 2891, 4068, 4781, 4963, 6071, 7017
Mango—
climate, requirements, 1961, 1962, 1967, 7462
composition—
flower, 1971
fruit, 5663, 7340
shoot, 1971, 3902, 3903, 5669
diseases—
cause uncertain, inflorescence malformation, 1978
fungus, 90, 3908
general, 1976
non-parasitic, 1977, 5669
economics, 1947
flower(s)—*see also above*, composition—
biology, 1964, 1973
Mango—flower(s) (*continued*)—
bud initiation and development, 1966-1968, 3903, 3905, 5665, 7463
malformation, 1978
sex-ratio, factors affecting, 3904, 5666, 5667, 7463
thinning or deblossoming, 1969, 1972, 3902
flowering dates, 3905
fruit—*see also above*, composition, *and below*, harvesting, packing *and* storage—
drop, 3905-3907
growth substances, endogenous, 1972
quality, 3907
ripening, changes during, 3912, 7340
set, 1972
size, 7463
fruiting, biennial or irregular, 1961, 1968-1971, 3902
growing in various countries, 1945, 1946, 5661
growth—
cycles, 7462
fruiting in relation to, 1968
-substances, responses, 1972, 7463
harvesting, 1975
morphology and anatomy, 1964
nutrition, 1963, 1970, 1977, 5668, 5669
packing, 1975
pests—
ants, 3910
borer (*Batocera rufomaculata*), 1980
caterpillars (*Lymantria* spp.), 3910
fruit flies (*Dacus* spp.), 1981
gall flies (unspecified), 195
general, 1979
hoppers (*Idiocerus* spp.), 1982, 1983, 5670, 7466
mealybug (*Drosicha stebbingi*), 195, 1984
mites, 7466
moth (*Perina nuda*), 6442
psyllid (*Apsylla cistellata*), 3909
pollination, 5666, 7464
products and by-products, 5671, 7467
propagation—
by budding and grafting, 1953-1959, 5664
by cuttings and layers, 195, 1960, 7461
methods, general, 1952
nursery management, 5536
pruning, 7463
research in India, 2364, 2371, 2372
root systems, 1965
rootstocks, 3901
seed development and polyembryony, 1972, 1974
soil—
management, irrigation, 1963
management, weed control, 1963
requirements, 1961, 1962
spray programme, 1979
spray residues, 1985
storage, 3911

Mango (*continued*)—
varieties, 1948-1951, 3900, 3901, 3904, 5661-5663, 5979, 5985, 7460, 7465
Mangosteen rootstocks, 2160
Manila grass—*see under Zoysia* spp.
Manila hemp—
breeding and selection, 2369
composition, 7378
diseases, 2377, 5542, 7378, 7379
fibre quality, 205, 5564
growing in various countries, 1853, 7377
production and trade, 1570
Manuals and other books—*see also* Bibliographies, Dictionary, Encyclopaedias, Flora *and* Reviews—on—
agriculture in Ethiopia, 2326
apple rootstocks, 240
bananas, 5542
biochemistry, 2331
botanists, North American, 2327
botany, general, 147, 2330, 5950
botany, tropical, 148, 4199, 4205
bulbs, 5166
cacao, 3821
cacti and other succulents, 1255, 1256, 6903
chrysanthemums, 5121
climate, 4207
coffee, 7408
cucurbits, 6552
diseases—*see also below*, virus—and their control in general, 75, 5895
diseases of tropical crops, 5539, 5542
experimental techniques, 118
freezing preservation, 2325
fruit(s)—
breeding, 5999
growing, 209, 5988
manuring, 6065
and seed utilization, 4204
small, 6183
trees, graft-incompatibility, 4203
tropical and sub-tropical, 1634
varieties, 221
fungicides, 2272
garden plants, 3188
growth substances, 47, 60
history of coffee, tea and cacao, 7334
history of flowers, 3189
insecticides, 2277
lettuce varieties, 3007
microscopy, 2324
orchids, 3346, 5200
pests and their control in general, 75
pests of tropical crops, 5539
physiology of plants, 2218, 4201
plant breeders, 2329
rhododendrons, 6927
rural studies, 4198
seeds, 2183
sisal, 7161
soils, 4206
statistical design and analysis, 4158
tree growth, 5951
Manuals and other books (*continued*)—
vegetables, 4739
virus diseases and vectors, 4201
viticulture, 4538
weed control, 75
wine making, 146, 6142
Maranta makoyana, 6904
Marasmius perniciosus, 5606
Marcotting—
black pepper, 1492
ornamentals, 1273, 6805
tropical and sub-tropical fruit, nut and plantation trees, 1879, 1880, 3635, 3823, 3898, 4032, 7311
Marigold (*Calendula*), cytology, 6831
Marigold (*Calendula*), diseases, 6832
Marketing—*see also* Packing *and* Transport—
co-operative, 73
crops, in the European Common Market, 72
fruit, 401, 405, 406, 408, 1766, 2379, 3647, 5504, 5505, 5956, 6113, 6135, 7296, 7297
holly, 178
nuts, 2379, 6288
research in the U.S.A., 6135, 6288
terminology, dictionary of, 74
tobacco, 7106
vegetables, 6565
Marmara salictella, 1747
Marrow—*see also under* Cucurbits *and* Squash—diseases, 4858
Marrow, varieties, 2925
Marsdenia tenacissima, 1537
Marssonina—
fragariae—see Diplocarpon earliana
panattoniana, 978
spp., on poplar, 88
Massachusetts agric. Exp. Stat., A.R., 5970
Matricaria chamomilla—see Chamomile
Mauginiella scaettae, 5513
Mauritius, crops, 4732
Mauritius Dep. Agric., A.R., 4236
Medicinal plants—*see also* Alkaloids, Cortisone, Sapogenins *and entries under* Castor, Chamomile, Poppy, Rhubarb *and species of Artemisia, Atropa, Cassia, Datura, Digitalis, Rauwolfia and Strychnos*—
diseases of stored material, 5362
growth substances, responses, a review, 3521
pollen morphology, 1503
seed production, 2183
various, 989, 1199, 1502, 1507, 1509-1516, 1519, 1520, 1530-1538, 1542, 1545-1555, 1623, 1625 2347, 2691, 3306, 3519, 3522, 3523, 3527, 3528, 3536, 3537, 3539-3543, 3545, 3554, 3556, 3557, 3559, 3569, 3627, 5157, 5353, 5358-5360, 5363-5366, 5368, 5370, 5380-5382, 5386-5390, 5394, 5395, 5539, 5671, 5849, 5894, 7119-7121, 7126-7128, 7131, 7132, 7135, 7138, 7140, 7145, 7147, 7185
in various countries—
Argentina, 4042

Medicinal plants—in various countries (*continued*)—
European, 2347, 5354
Ghana, 148
India, 195, 3520, 5357, 5358, 7117
New Zealand, 1501
the U.S.A., 7116
the U.S.S.R., 5361
Megaselia halterata, 2345, 3046
Megoura viciae, 6605
Melanagromyza coffeae, 3888
Melanagromyza phaseoli—see Agromyza
Melastoma sp., nutrition, 7397
Melia—see Azadirachta
Melittomma insulare, 5633
Meloidogyne—see also Nematodes—
arenaria, 98, 164, 1159, 1371, 3180, 3414
exigua, 1932, 3887
hapla, 164, 871, 1041, 1159, 1323, 1371, 3179, 4760, 6396
incognita, 193, 806, 807, 1138, 1140, 1371, 1443, 1848, 3049, 3178, 3180, 3181, 3414, 3415, 3509, 3512, 4995, 5323, 7557
javanica, 1371, 1442, 2757, 3177, 3414, 3512, 3991, 5322, 5427, 5879, 7088
marioni, 4860, 5905
spp., unspecified, 687, 808, 1849, 2081, 6398, 6907
Melon (cantaloup and musk)—*see also* Cucurbits *and* Water-melon—
breeding, 2929
climate, light and temperature responses, 2927, 4840, 6567, 6568
composition, fruit, 900, 6568
composition, leaf, 900
diseases—
bacterial, 4861
fungus—
fruit rots, various, 804, 910
fusarium wilt (*F. oxysporum*), 4856, 6573
powdery mildew (*Erysiphe cichoracearum*), 911, 4858
verticillium wilt, 2269
general, 6537
non-parasitic, 2932
resistance, 898, 4856
virus, 4852, 4853, 6568
flower, sex expression, 2927, 2931
flowering, factors affecting, 902, 4840
fruit—*see also above*, composition *and below*, harvesting, packing *and* storage—
ethylene emission, 2934, 4842
quality, factors affecting, 902, 6568
respiration, 2933, 2934, 4842
ripening, 2370, 2933, 2934, 4842
set, parthenocarpic, 2931
growing in the Congo, 784
growing under plastic, 6481
growth rate, 900
growth substances, responses, 2350, 2931
harvesting, 4843
hybrid vigour, 2928
hybrids, intergeneric, 2929
Melon (cantaloup and musk) (*continued*)—
leaf exudations, 2932
nutrition, 889, 902, 2849, 6492
packing, 2935
pests, insects, 914, 915, 4861
pests, nematodes, 807
physiology, translocation, 4838, 4839
planting, spacing, 899
pollen germination, 2256
propagation by grafting, 2929, 2930, 4838, 4839
research in the U.S.A., 5959, 6560
rootstocks, 2929, 2930, 4938, 4839
seed—
characters, 6555
sowing, 899
storage, 788
seedlings, raising of, 899
soil management—
irrigation, 797, 910
mulching, 798, 986, 4841, 6481
weed control, 4841
spray injuries and residues, 195, 2948
storage, 2933
varieties, 898, 903. 2364, 2926, 2927, 4215, 4837, 4861
as a virus indicator, 6338
Menyanthes trifoliata, 4847
Merbein Irrigation Res. Stat., A.R., 5963
Mercury residues in crops, determination, 4157, 4716
Mercury translocation in plants, 6467
Mesua ferrea, 7139
Metagonistylum minense, 2087
Metaponia rubriceps, 2091
Metasyrphus wiedemanni, 718
Metatetranychus ulmi—see Panonychus
Metaxenia—*see* Xenia
Meteorology, agricultural, 4043
Methionine content of plants, factors affecting, 3029
Mevalonic acid in plants, 1045
Mexico, crops, 1787, 7333
Microbiology, Annual Review of, 2332
Micromyrtus ciliatus, propagation, 3206
Microscopy, a book on, 2324
Microsphaera alni, 671, 4652, 6375, 6376
Microtermes anandi, 2092
Microthyriella rubi—see Leptothyrium pomi
Microtus agrestis, 4148
Migdolus moretesi, 5746
Mikania micrantha, 2132
Milk, virus diseases controlled by, 1119, 4138
Millipede control, 1290
Mimosa (*Albizzia julibrissin*), pests, 1316
Mimosa invisa, 3979
Minor elements—*see separate elements, and* Chelates, Deficiencies, Frit, Nutrition, *and crops under* nutrition
Mint—
diseases, 1561, 3565
growing in South Africa, 7152
harvesting, 3564
leaf area estimation, 5398

Mint (*continued*)—
nutrition, 3564
oil, essential, 1562, 3564, 7152, 7153, 7155
pests, 2279, 3566, 4141
physiology, temperature responses, 7153
physiology, translocation of nutrients, 7156
species and varieties, 1561
Mississippi agric. Exp. Stat., A.R., 4221
Mist sprays—*see* Cuttings, Grafting, Humidifiers *and* Sprays
Mistletoe control, 155, 2364, 5894
Mistletoe, as a medicinal plant, 5894
Mite(s)—*see also scientific names, and crops under* pests—
control—
biological, 691, 692, 2281, 2692, 3646, 4715
chemical—*see* Acaricides
general, 101, 2692
by soaking in water, 3404
as fungus disease vectors, 6817
host responses to, 4658, 4660, 4665
populations, factors affecting, 498, 692, 693, 699, 939, 2760, 2762, 4653, 4657, 4659, 4669, 4705, 4724, 5907
predacious, 691, 4664, 4669
resistance to acaricides developed by—*see* Acaricides
Mitochondria, fruit, 425
Mitochondria, plant, 43, 4166, 5096, 5286, 5840, 5975
Mitragyna spp., alkaloids 5380, 5381
Mole cricket control, 201
Molybdenum—
application, foliar, 2464, 2673, 4342
contents of plants, factors affecting, 6493
deficiency, physiological effects, 17
deficiency symptoms, 1994, 2851, 3140, 4018, 4068, 4547, 6710
determination, 124, 2300
interrelationships with other elements, 3140, 4342, 5056
nutrition—*for individual crops see each under* nutrition—of fruit and plantation crops, 2464, 4108
nutrition of vegetables—*see also* Cauliflower *and* Tomato—2851, 4999, 6493
sources, frits, 4999, 6528
toxicity, 17, 4018, 4068
Momordica charantia (bitter gourd), 874
Monarthropalpus buxi, 1314
Monilia—see also Sclerotinia and Scopulariopsis —roreri, 5984
Monolepta australis, 4143
Monstera deliciosa, 1260, 5821
Morden exp. Fm, Manitoba, progr. Rep., 168
Moringa oleifera (=*M. pterygosperma*), 5422, 7140
Morocco, crops, fruit, 1780, 7205, 7218
Morphine—*see under* Poppy, opium, alkaloid
Moss—
control—
in lawns, 159, 6894
on plants, 2141
Moss—control (*continued*)—
in seed boxes, 3278
in landscape gardening, 3322
Mountain ash—*see under Sorbus* spp.
Mouse—*see under* Rodents
Mucic acid in fruits, 5792
Mucilages—*see under* Gums
Mucuna spp., as a cover crop, 2066
Mucuna spp., nematodes in relation to, 1442
Muhlenbergia schreberi, control, 1248, 6899
Mulberry—
nutrition and leaf composition, 2475
pests, 4701
physiology, 2237, 5842
Mulching—
crops—*for individual crops see each under* mulching *or* soil management—
fruit and plantation crops, evergreen—*see also* Citrus *and* Coffee—1808, 2000, 2037, 2107, 4237
fruit trees, deciduous—*see also* Apple—4309
lawns, 3324, 4228
ornamentals, 177, 1274, 1328, 6823, 6942
small fruits and vines—*see also* Strawberry —159, 178, 561, 562, 2669, 4540, 5825
various, 1495, 1580, 7019
vegetables—*see also* Tomato—164, 798, 986, 2347, 4832, 4841, 4936, 5825, 6480
effects on—
air temperature, 5455, 5538, 6481
disease incidence, 1495, 3871, 6575
frost injury, 159, 275, 4309, 5114,
fruit colour, 5455, 5538
fruit composition, 562
pest incidence, 1495
soil—
carbon dioxide production, 6480
moisture content, 798, 6480
temperature, 164, 798, 5455, 5538, 6480, 6481
weeds, 561, 798, 2669, 4841
machine for, 6355
materials—
bagasse, 1274, 2000
grass or hay, 3871, 5455, 5538, 6051
leaves, 1693, 2669
Leucaena branches, 2000
paper, 2000, 4735, 7019
peat, 2336, 3428, 6809
plastic, 157, 162, 164, 454-457, 798, 986, 1302, 1328, 1693, 2000, 2344, 2573, 2669, 4455-4457, 4832, 4841, 5044, 5045, 5114, 5825, 6481, 6809, 6823, 7019
Pueraria spp., 3687
sawdust, 178, 2669, 6942
straw, 2378, 4936, 6050, 7019
wood shavings, 3686
sod—*see under* Cover crops
Musa—see also Banana *and* Manila hemp—
acuminata, 1833, 3790, 7368
balbisiana, 1833, 1835, 1843, 3792, 7362
chilocarpa, 3790

Musa (*continued*)—
spp., taxonomy, 7348
superba, 3795
Muscari bulb production, 1207
Muscari flowers, cut, prolonging the life of, 3202
Mushroom (mainly *Psalliota* spp.)—
bed casing, 158, 3039-3041, 4950, 6666, 6667
bed size and shape, 4949
cap development, 3042, 6669, 6672
composition, 3047, 4956, 4957, 6673-6675
compost—
ammonia in, 6670
analysis of, 3037
compression, 4949
disinfection, 6671
heating, 3044, 4947
preparation, 993, 3031, 3036
types, 992-994, 3032, 3038, 4948
utilization after cropping, 2850
diseases and competing organisms—
bacterial, 995
cause uncertain, 2345
fungus, 995, 3036, 3043, 4954, 6670
general, 2336
economics and labour studies, 162, 3045, 4949
growing in various countries, 991, 992, 3031
growth, mycelial, factors affecting, 3033, 6665
growth, stipe, 3042
houses—
air conditioning and ventilation, 3030, 4951, 4952, 6668
construction, 3030
insulation, 4953
plastic, 4948
marketing, 996
mycelium culture for spawn—*see below*, spawn
mycelium, testing, 6665
nutrition, 3040, 4221, 4957
pests—
general, 2336, 4216
insects and mites, 2345, 3045, 3046
nematodes, 162, 2337, 3044, 6671
physiology, 3042, 6667, 6669, 6672, 6674
research in Great Britain, 2345
spawn types, 4946
spawning methods, 3032, 3034-3036, 4946, 6667
spray residues, 4955
storage, 996
strains and varieties, 3032, 5953
trays, depth of, 6667
water requirements, 4950
Mustard—
breeding, 1487
climate, winter hardiness, 2898
composition, 2364, 2898, 3514, 3515, 5347
flower removal, growth responses to, 4779
growing in various countries, 1483, 3513
Mustard (*continued*)—
growth, ionized air affects, 5348
growth substances, responses, 2242, 2898, 5868
herbicide responses, 78, 4804, 4914, 6708
nutrition, 795, 1484, 1485, 1488, 4067, 5347, 6491
pests, insects, 5349
physiology, 78, 1488, 2242, 3514, 4067, 5348, 5854, 6708
seed oil, 1484-1487
seed treatment, 5816
species and varieties, 2898, 3515
weed control, 802, 4804
Mutations—
induced—
in fruit plants, 219, 224, 237, 6000
in various plants, 40, 1068, 1294, 1405, 2115, 3238, 3345, 5156, 5645, 5973, 6603, 6798, 6842, 6971
in vegetables, 5020
intergeneric chimaera, 3670
natural—
in castor beans, 1608
in fruits and nuts, 194, 1660, 2371, 2403, 2404, 2406, 3670, 4261, 5990, 6022, 6241, 7255
in ornamental plants, 1275, 1341, 3356, 5135, 5153, 6834,
in vegetables, 5022, 6519
Myceliophthora spp., on mushrooms, 995, 3043, 4954
Mycena citricolor—see Omphalia flavida
Mycorrhiza of various plants, 1504, 6182
Mycosphaerella—
aleuritidis, 3773
fragariae, 5977, 6378, 6381
ligulicola, 1186, 1187
melonis, 6574
musae, 3808
musicola—see Banana diseases, fungus, leaf spot
pinodes, 183, 936, 965, 2993
spp., unspecified, 2949, 5901
Myoporum spp., growth abnormalities, 5249
Myrtle as a medicinal plant, 1538
Mysore Dep. Agric., A.R., 198
Myzus—
persicae, 853, 933, 4228, 4681, 4807, 4943, 5147, 5325, 5683, 6605, 6647, 6764, 7090, 7091
solani, 1230
spp., unspecified, 1443
Nacoleia octasema, 1851, 3820, 5556, 5557
Napomyza lateralis, 87, 988, 3027, 3028, 6473, 6663
Napomyza spp., unspecified, 987
Naranjilla—*see Solanum quitoense*
Narcissus—*see also under* Bulbs—
a book on, 1232
bulb disinfection, 1233, 1234, 3273, 3311
bulb storage, 1233, 5955
composition, 5157

Narcissus (*continued*)—
diseases and disorders, 1234, 2345, 3311, 3312, 3314, 4229
flowering, forcing, 1233
flowers, cut, packing and storage, 178
growing in Great Britain, 1207, 3271
herbicide responses, 3310
nutrition, 777, 5967
pests, insects, 177, 5187
pests, nematodes, 777, 3273, 3311
research in Great Britain, 3272
soil management, weed control, 88, 177, 2348, 3310
species and varieties, 1232, 3308
Year Book, R.H.S., 3308
Nasturtium officinale—see Watercress
Nasturtium (*Tropaeolum*)—
composition, 5157
diseases, 5147
photosynthesis, 2219
propagation by cuttings, 6803
National—
Agricultural Advisory Service—*see under* Annual Reports, *and* Great Britain
fruit trials in England, 4253
Inst. agric. Bot., Cambridge, A.R. and work at, 774, 780, 5812
Nectar composition and secretion by plants, 1620, 1713, 2588, 6924
Nectarine—
fruit maturity standards, 395
fruit quality, factors affecting, 378
pests, 171
varieties, 4267, 6022
Nectria—
cinnabarina, 6350
ditissima, 6350
galligena, 4610, 4718, 6350-6352, 6458
spp., unspecified, 165, 6353
Nelumbium speciosum, 5101
Nematode(s)—*see also individual species*—
attraction by plants, 3177, 7557
control—*see also* Fumigation, soil—
barriers to check spread, 1731
biological, 96, 687, 1140, 3181
by chloropicrin, 804, 3312
crop rotations, cover crops and fallowing in relation to, 687, 807, 1041, 1442, 1495, 1850, 3273, 4760
by DD, 777, 808, 871, 2902, 2903, 3066, 3180, 3273, 3312, 3485, 3512, 3582, 3815, 4995, 5321, 5322, 5324, 5953, 5975, 6334, 6396, 6397, 7086
by dibromochloropropane (Nemagon, DBCP, etc.), 689, 806, 871, 1159, 1323, 1732-1734, 1848, 2005, 2860, 3178, 3312, 3369, 3384, 3485, 3720, 3815, 3816, 3990, 4995, 6396, 6942
by dichloropropene (Telone), 690, 871, 1733, 2902, 3312, 4020, 4972
by diethyl dichlorophenyl thiophosphate (V-C 13 Nemacide), 98, 1733
Nematode(s)—control (*continued*)—
by diethyl pyrazinyl phosphorothiate (Cynem), 1159, 1443, 1735
by dimethyl tetrahydrothiadiazine thione (Mylone), 3180, 6397, 6851
economics, 3485
by ethylene dibromide (EDB), 690, 871, 1733, 2903, 3312, 4020, 5322, 6396
by fumigant mixtures, 5321, 6851
by fungicides, 3486
general, 2354, 2365, 2585, 4141
under growing crops, 98, 689, 1323, 2005, 3182, 3369, 6396, 6942
by heat treatment, 1159, 2337, 2759, 3044, 3255, 3273, 3311, 3313, 3815, 4860, 6878, 6907
by insecticides, 1849, 3509, 5905, 6871
by metham sodium (Vapam, Sistan), 97, 157, 777, 3180, 3485, 3582, 3815, 4020, 6397, 6576, 6851
by methyl bromide, 804, 3485, 3815, 5264, 5975, 6397
by methyl isothiocyanate (Trapex), 99, 3049, 5975, 6397
by soil amendments, 7267
by various chemicals, 97, 1138, 1731, 1733, 1849, 3066, 3179, 3485, 3509, 3816, 4995, 5086, 5906, 6851, 6957
by weed eradication, 1736
of crops—
catalogues and surveys of, 1730
fruits and nuts, deciduous—*see also* Strawberry pests—609, 687-690, 2363, 2693, 2756, 2758, 2759, 4215, 6395, 6398, 6416
fruit and plantation crops, evergreen—*see also* Citrus pests—1904, 1931, 1932, 2005, 2082, 2105, 2363, 3770, 3815, 3816, 3849, 3850, 3887, 3922, 3941, 3990, 3991, 4019, 4020, 4231, 5978
ornamentals—*see also* Carnation pests—bulbs, tubers and corms, 777, 1159, 3273, 3311-3313, 6851, 6871, 6907
various, 90, 1159, 3235, 4141
woody, 687, 688, 1323, 3369, 3384, 6942
various—*see also* Tobacco pests—1495, 3509, 3512, 3582, 3600, 4141, 5427
vegetables—*see also* Beans (*Phaseolus*), Carrot, Onion *and* Tomato *under* pests—90, 96, 806, 808, 871, 2337, 2860, 2902, 2903, 2996, 2997, 3049, 3066, 4141, 4760
-fungus disease complexes, 609, 610, 1169, 2996, 3719, 7262
host—
crop losses, 95
disease susceptibility affected by, 1041
growth and composition in relation to, 1737, 2997, 3718, 5963
hardniess affected by, 5234
rseistance to, 4221, 4892, 5323
insect control by, 2909
populations, factors affecting, 164, 1730, 1737, 2758, 2858

Nematode(s) (*continued*)—
sampling and other techniques for studying, 2758, 3717
soil sickness in relation to, 688, 4571
transmission by weevils, 3850
as virus vectors, 1888, 2720, 3849, 5975, 6328, 6334
Neocnemodon elongata, 718
Neofabraea perennans, 2544
Neolecanium cornuparvum, 6794
Nepeta spp., weed control, 6809
Nephrolepis spp., nutrition, 3342
Nepticula malella—*see Stigmella*
Nerine, bulb storage and forcing, 3315
Nerium odorum, 7133
Nerium oleander 1747, 3180, 4847
New South Wales, Dep. Agric., A.R., 170
New York St. Coll. Agric., A.R., 154, 5962
New York St. hort. Soc., Proceedings, 5956
New Zealand—
crops, fruit, deciduous, 2613
Dep. Agric., A.R., 171
D.S.I.R., A.R., 173
D.S.I.R., Crop Research Division, handbook on, 172
flax in South Africa, 1579
flora of, 145
medicinal plants of, 1501
ornamental plants from, 1150
Nezara viridula, 728, 3184
Nickel nutrition of plants, 576, 2464
Nickel toxicity, 3847
Nicotiana—
alata, 1419, 1420
glutinosa, 3468, 5306, 5308, 6496
gossei, 5325
longiflora, 5310
plumbaginifolia, 5257, 7085
repanda, 3146, 5325, 7088
rustica, 1414, 1421, 3412, 5282, 5285, 5290, 6496, 6995, 7001, 7024, 7033, 7036, 7038, 7039, 7043
sanderae, 5281, 5320
spp.—
alkaloids—*see also under* Tobacco, composition *and* physiology—5290, 5291
chloroplast structure, 1421, 5285
diseases, resistance to, 155, 3462, 7063, 7065
grafting, interspecific, 7036
hybrids, interspecific, 3411, 3412, 5284, 5303, 5325
mutations, 1405
pest resistance, 5325, 7088
physiology, 1399, 1405, 5281
seed treatments, 5263
sylvestris, 3416
trigonophylla, 5325
Nicotine and nornicotine—*see also under* *Nicotiana* spp., alkaloids, *and under* Tobacco, composition *and* physiology—
biosynthesis, 1413, 1414, 5289, 5291
contents of plants, factors affecting, 3449
Nicotine and nornicotine (*continued*)—
degradation, 4105
determination, 3454, 5292, 7037
Nigella spp., light and temperature responses, 5379
Nigella spp., seed treatment, 5816
Nigeria, Federation, Dep. agric. Res., A.R., 2366
Nigeria, Northern Region, Minist. Agric., A.R., 199, 2367
Nigrospora sphaerica, 5562
Nitrogen—
absorption and translocation in plants, 2677, 2923, 2990, 3132, 3442, 4747, 5271, 5960, 6747
application, foliar, of compounds other than urea, 569, 2763, 4791, 6266
application, foliar, of urea—*see* Urea
content of plants, factors affecting, 466, 567, 900, 924, 930, 1044, 1408, 1409, 1861, 2462, 2959, 3095, 3399, 3461, 3718, 4322, 4323, 4343, 5185, 5247, 5275, 5276, 5287, 6945, 7395, 7489
content of plants, seasonal variations in, 567
deficiency, physiological effects, 7042
deficiency symptoms, 156, 1821, 1860, 1944, 1994, 5246, 5686, 6710, 6880, 7383, 7459
determination, 3441, 5975
disease resistance or development affected by, 673, 675, 1116, 2726, 2905, 3169, 3293, 3483, 5312, 5315, 5975, 6765
fixation by legumes, 2991, 6588
fixation by soil bacteria, 3965
gaseous, seed responses to, 10, 3009
interrelationships with—
calcium, 309, 930, 1861, 3702, 3970, 4342, 4454, 4787, 5271, 5669, 7004, 7007, 7238
growth substances, 3573, 4657
light and darkness, 974, 5588
magnesium, 309, 466, 930, 1861, 2135, 4787, 7007
manganese, 3139, 4342, 4454, 4963, 7245, 7545
phosphorus, 901, 1092, 2469, 2472, 3099, 3691, 3702, 4454, 4787, 5462, 6615, 6765, 7007
potassium, 309, 466, 573, 1386, 1861, 2468, 3099, 3100, 3136, 3219, 3526, 3694, 3702, 4328, 4454, 4787, 5270, 5462, 7007, 7013, 7239
various elements, 1394, 3140, 4342, 4607, 4963, 7245
metabolism in plants, 3029, 3573, 3702, 4101, 4102, 5960
movement in soils, 7430
nutrition of crops, soil fumigation affects, 7010
ozone injury in relation to, 3099
pest populations affected by, 498, 693, 4657, 4659, 5907
plant metabolism and organic composition affected by, 478, 1391, 1406, 2894, 3100, 3101, 3132, 3522, 3526, 3564, 3622, 4342

Nitrogen (*continued*)—
radioactive, 4329
sources—*see also* Ammonia *and* Urea—
ammonium, nitrate and urea compared, 847, 1390, 1414, 1698, 1885, 2063, 2135, 2350, 3133, 3526, 3702, 3845, 4342, 5205, 5271, 6945, 7013, 7477
aqueous ammonia, 3941, 5718
controlled-release, 4072, 5123, 5830
organic materials, 1306, 1388, 4325, 6354
various, comparisons between, 159, 673, 1179, 1699, 1700, 1709, 2345, 3140, 3196, 3588, 3693, 3694, 3966, 4226, 4797, 5123, 6890, 7006, 7007, 7010, 7238-7240, 7396
various, plant adaptation to, 5960
toxicity, 2105, 7010, 7013
Nomenclature—
botanical, 6012
horticultural, 2165, 2371, 6886
of virus diseases, 4137
North of Scotland Coll. Agric., work at, 174
Northern Ireland, Minist. Agric., A.R., 5971
Norway, crops, fruit, 4246, 4247, 4464
Nottingham Univ. Sch. Agric., A.R., 175, 5972
Nucleic acids, 57, 960, 1113, 2223, 2224, 2254, 2350, 3450, 4164, 4351, 4578, 4919, 5851, 5852, 7043, 7054
Nursery(ies)—
economics and labour studies, 162, 3217, 4275, 5803
soil heating for, 6804
soil sterilization in, 1271
stock—
diseases, 5896
frost injury and protection, 3216, 4228
growing in containers, 2198, 3216, 3396, 5238
lifting, grading, packing and storage, 1294, 1856, 2199, 3399, 6938
nutrition, 1308, 4316
pests, 5896
planting and tying-in, 6079
plastic or wax coatings for, 1279, 3504
potting methods, 6789
weed control—*see* Weed control in specific areas
Nut(s)—*see also individual species*—
breeding and selection, 220
composition, 7
flowering, harvesting and marketing dates, 2379
Growers' Ass., Northern, A.R., 5957
growing in various countries, 4042, 4562, 5988
production and trade, 212, 4210
varieties, 221, 2386, 4257
Nutmeg, propagation, vegetative, 2364
Nutrients—*see also* Fertilizers, Minor elements *and* Nutrition *and also separate elements*—
absorption and translocation, 4115, 5050, 5269, 6510, 7156
cation and anion balance, 5269, 5271
Nutrients (*continued*)—
leaching from leaves, 4340, 5734
in rain, 5627
Nutrition—*see also* Deficiencies *and separate crops*—
foliar—
fungicides and acaricides combined with, 569, 570, 577, 2763
growth substances combined with, 1921
with hydrolized seaweed sprays, 28
with major elements—*see separate elements*
with minor elements—*for compounds commonly applied in this way see separate elements*—569, 570, 867, 1309, 4320
of plants—
deciduous and small fruits—*see also* Apple, Peach, *and* Vine *under* nutrition—80, 314, 319, 604, 2206, 2464, 4320, 6266
evergreen fruit and plantation crops—*see also* Citrus nutrition—1919, 1921, 2206, 5591, 5640-5642
ornamentals, 1309
vegetables—*see also* Bean (*Phaseolus*) *and* Tomato *under* nutrition—867, 2342, 4791
reviews on, 2206, 2207
by injection into plants, 1707, 4607
by injection into soil, 2466
ozone injury in relation to, 3099
Nutritional value of crops—*see also under* Vitamins—7, 812, 1148, 1817, 2262, 2263, 2325, 2581, 3109, 4777, 4878, 4992, 5798, 6291, 6509, 7201
Nyasaland—*see also* Rhodesia and Nyasaland—Dep. Agric., A.R., 2368

Oak—*see also Quercus*—
diseases, 1294, 5965
growth substance responses, 1155
pests, 2355
propagation by grafting, 6798
seedling variation, 5250
species and varieties, 1340
Ocimum—*see also* Basil—*kilimanjaricum*, 1563
Octoploid plants, 2558
Odina wodier, 1583
Odontotermes obesus, 2092
Oecophylla smaragdina, 3910
Oenothera spp.—
flower respiration, 2235
growth substance responses, 5872
hybridization, natural, 6840
pollen irradiation, 67
seed germination, 3252
Ohio Vegetable Growers' Handbook, 4730
Oidium—*see also scientific names of perfect forms*—
heveae—*see* Hevea diseases, fungus, mildew
lactis, 2918
leucoconium var. *rosae*—*see* Rose diseases, fungus, mildew

Oil(s)—*see also* Essential—
fruit (pulp or skin)—
avocado, 4232
oil palm—*see Elaeis* palm oil
olive—*see* Olive
plants in the Congo, 196
plants in the U.S.S.R., 5361
production, trade and utilization, 5417
seed or kernel (other than essential oils)—*see also* Castor bean—
argemone from *A. mexicana*, 7185
from *Aristolochia bracteata*, 1510
ben oil from *Moringa* spp., 5422
citrus, 3745, 7303
coffee, 1941, 5657
composition, vitamin B complex, 2263
from cruciferous plants, 1487, 3615, 7192
cytological activity of, 1411, 6988
determination and characterization, 7185, 7195
from *Dodonea viscosa*, 1613
from euphorbiaceous plants, 1614, 7193
extraction, 1896, 7303
from palms—*see also* Coconut *and Elaeis* —7195
from *Peganum harmala*, 1615
from *Polanisia trachysperma*, 1617
poppy, 1604, 5421
sesame, 3616
from solanaceous plants, 6988
from *Vallaris heynei*, 1623
from various tropical plants, 1604, 3621, 5370, 5423, 5798
walnut, 7030
Okra—
diseases, 3048, 3049
fruit (pod) development and quality, 4960
growing in the U.S.A., 997, 998
harvesting, time of, 4960
nutrition, 2849
pests, 808, 1140, 2860, 3049, 3050, 3181, 4959, 5879
research in India, 2364
seed—
coat anatomy, 4958
germination and fruit maturity, 6677
treatment and storage, 805, 3051
soil fumigation, 99
spray residues, 195
varieties, 194, 3050, 4960
Olive—
anatomy, 7320
climate—
drought responses, 3755
frost resistance and injury, 1793, 7319
temperature responses, 3754-3756, 7323
composition—*see also below*, oil—fruit, 3755, 5526
composition, leaf, 3754, 5926
diseases, fungus, leaf spot (*Cycloconium oleaginum*, 1797, 7324, 7327
diseases, fungus, various, 1796, 1799, 5523, 7327
Olive (*continued*)—
economics, 7316
flower biology, 5521
flower initiation and development, 1794, 1795, 5522. 7323-7325
fruit—*see also above*, composition *and below*, harvesting—
blackening, 5526
residues, edible oil from, 5528
ripening, 3755, 5526
size, 7322
growing in—
Australia, 7315
Central and South America, 1786, 1787, 3616
Mediterranean countries, 1788, 1789, 3750, 5520, 7316, 7317
the U.S.S.R., 3751
growth cycle, 1794, 3756
harvesting, time of, 3752
harvesting, tools and machines for, 4415, 5525
leaf drop, 5522
nutrition, manuring and major elements, 4331, 7321
nutrition, minor elements, 3757, 3758
oil—
adulteration tests, 7329
from bagasse, 5528
composition, 1789, 3752, 3766, 5527, 5528, 5926
contamination by sprays and dusts, 1799, 3761, 3764, 3765, 7328
pests—
fly (*Dacus oleae*), 1789-1801, 3759, 3761, 3762, 3765, 5524, 7327, 7328
insects, various, 1796, 3759, 3760, 5524
moth (*Prays oleellus*), 1799, 3759, 3763, 5524, 7327
scale insects (*Parlatoria* and *Saissetia* spp.), 1796, 5524, 7327
physiology, light responses, 1795
physiology, water relations, 5522, 7322
planting, spacing, 1792, 3750
pollination, 5521, 7318
production and trade, 1786, 1787, 3750, 5417
propagation, 1790, 3750
pruning and training, 1791-1793, 3750, 7326
research in Spain, 4216
root systems, 5521
seed germination, 3753
soil—
amendments, 5523
management, irrigation, 7322
water requirements, 5522
spray residues—*see above*, oil contamination
trees, wild, destruction of, 1801
varieties—
in Argentina, 3616
frost resistance, 7319
in Mediterranean countries, 2389, 3752, 7318, 7319
Olpidium brassicae, 4940

Olpidium spp., unspecified, 4941, 6952
Omphalia flavida, 3886
Oncometopia undata, 6341
Onion—
breeding and selection, 2344, 4973
bulb—*see also below*, sets—
composition, 1002, 1016, 2861, 3055, 3059, 3064, 4963, 4975, 4984
dormancy, growth substances prolong, 1014, 3064
dormancy, irradiation prolongs, 68, 1015, 3064, 3065
flavour, factors affecting, 3065
heat treatment, 166
maturity, uniformity in, 4973
storage, 1002, 1014, 1015, 2347, 3064, 3065, 4789, 4973, 4974, 6687
terminology, 3054
bulbil formation, 1009, 4965
climate, rain damage, 3464
climate, winter hardiness, 1003
composition—*see also above*, bulb *and below*, leaf—plant, 1003, 4985
diseases—
fungus—
bulb rot (*Fusarium oxysporum* f. *cepae*), 6685
damping-off (various organisms), 6478
downy mildew (*Peronospora destructor*), 1006, 1011, 3061, 4968
leaf blight or purple blotch (*Alternaria* sp.), 4971
neck rot, blast, leaf spotting or wilt (*Botrytis* spp.), 4971, 6497
pink root (*Pyrenochaeta terrestris*), 3062, 6685
smut (*Urocystis cepula*), 88, 1010
storage rots (various species), 3065
white rot (*Sclerotium cepivorum*), 172, 1012
general, 3060
virus, 2859
economics, 6678
flower biology, 4964
flower initiation and development, 4965, 6687
growing in Ireland, 6678
growth studies, 773
growth substance responses—*see also above*, bulb dormancy—1005, 3055, 4120, 4966
herbicide responses—*see also below*, soil management, weed control—3056, 3057, 3086, 6484, 6485, 6683
leaf area, yield in relation to, 4962
leaf composition, 4963
nutrition—
manuring and major elements, 975, 1002, 1004, 1005, 1014, 4963
minor elements, 4963, 6494
salt tolerance, 796
pests—
flies (*Hylemyia* and other spp.), 1013, 3063, 4217, 4225
Onion—pests (*continued*)—
nematodes, 157, 4760, 4972, 6686
thrips (*Thrips tabaci*), 4968, 5984
weevils (*Ceuthorhynchus suturalis*), 87
physiology—
enzyme activity, 1016
photoperiodic and other light responses, 4096, 4746
respiration, 3064, 4966
temperature responses, 1006, 5167
tissue culture, 31
planting—*see also below* sets—machines for, 1008
planting, treatment of seedlings, 1005
pollination, 3052
research in various countries, 2336, 2350, 2352, 2364, 2377, 5960, 5979, 6471
seed—
germination, 786, 790, 2186, 2843
production, 203, 3052, 4964
sowing methods, 157, 1002, 2843, 4961, 6682
storage, 787, 788, 3051, 4051
treatments, 88, 789, 805, 1010, 3063, 6478, 6681, 6683
seedlings, production, 1004
sets, 1006-1008, 3053, 3072, 4961
soil management—
cultivation, 179
fumigation, 157, 4972
intercropping, 1001
irrigation, 166, 1004, 1014, 6683
weed control, 76, 88, 166, 177, 799, 780, 2370, 2852, 3056-3059, 3086, 4967, 6484, 6485, 6679, 6683, 6684
storage—*see above*, bulb *and* seed
thinning, 4962
varieties—
general, 203, 999-1001, 1016, 2359, 2365, 2840, 6680
salad, 1002
top (*Allium cepa* var. *multiplicans*), 4965
Welsh (*Allium fistulosum*), 802, 1003
Onosma echioides, 5382
Ontario agric. Coll., Guelph, A.R., 2350
Ontario hort. Exp. Stat., Prod. Lab., bien. Rep., 2351
Onychiurus hortensis, 6598
Operophtera brumata, 4697, 6412, 6433, 6459
Ophiobolus graminis, 2269, 3327
Ophiomyia pinguis, 988, 3028
Oplismenus hirtellus, 6800
Opsiphane tamarindi, 3818
Opuntia spp.—
growing in Mexico, 7333
growth substance responses, 5534
as rootstocks for ornamental cacti, 1257
Oraesia emarginata and *O. excavata*, 753
Orange—*see under* Citrus
Orange Free State Dep. agric. tech. Serv., A.R., 2352
Orchard(s)—*see also* Fruit trees *and individual crops*—

Orchard(s) (*continued*)—
economics, 5992
intercropping, 5460, 6054
light intensity in, 335, 2459
planting, spacing, 334, 335
soil—
conservation, 290
drainage and waterlogging, 292, 293
management, 137, 279, 292, 557, 2458, 2692, 3536, 4124, 4128, 4309, 4312, 4313, 4324, 5460, 6053, 6055, 6068
windbreaks, 277
Orchid(s)—*see also individual genera*—
books on, 3346, 5200
breeding and genetics, 1265, 3348
growing in various countries, 3347, 4216
nutrition, 5201, 6915, 6916
pests, 1268
physiology, 3349
plant irradiation, 1153
protocorm development, 3349
seed suspensors, 6913
soilless culture, 5201, 6915, 6916
Origanum vulgare, essential oil content and analysis, 1564
Origanum vulgare, fluorine injury and responses, 4071
Ornamental plants and flower crops—*see also* House plants, Pot plants, Trees and shrubs *and separate plants*—
annuals and biennials, a book on, 3188
breeding, 3191
climate, air pollution, 5811
diseases, 1157, 6792
growing in various countries, 1149, 3191, 3192, 6786, 6787
history, a book on, 3189
nutrition, 5106
pests, 90, 1158, 2279, 4141, 4761, 5910, 6796
physiology—
general, 5961
growth substance responses, 1156, 2248
light and temperature responses, 1156
production and trade, 6787
research in various countries, 169, 5970
seed production in the U.S.A., 2183
soil management, irrigation, 5104
soil management, weed control, 166, 4124, 4208, 5115, 5116, 6810
soilless culture, 3193
Ornithogalum spp.—
bulb storage, 3190
diseases, 3316
planting, spacing, 3316
weed control, 3212
Orobanche spp., and their control, 1409, 2937, 7160
Orthosiphon staminens, 1539
Oryctes rhinoceros, 197, 1890, 1891, 3851, 4236
Oryctes spp., unspecified, 2366
Osmotic pressure—
drought and water supply relationships, 2618
electric oscillations in plants affected by, 5862
Osmotic pressure (*continued*)—
growth substances affect, 49
Otiorrhynchus spp., and their control, 727, 4568, 6419
Ovary and ovule culture, 31, 7142
Ovulinia azaleae, 1350
Oxalic acid contents of plants, 46, 3101, 4342
Oxalic acid determination, 5925
Oxalis spp., composition, leaf, 2302
Oxalis spp., as weeds and their control, 557, 3215
Oxidus gracilis, 1290
Oxygen—
assimilation, light affects, 2234
concentrations, plant responses to, 3260, 4098, 4099, 5840
mitosis of roots in relation to, 5833
in nutrient solutions, plant responses, 3260
permeability of seed coats to, 10
requirements of phloem, 2237
Oxytenanthera abyssinica, 7108
Ozone concentration, measurement of, 4047, 7047
Ozone injury to plants—*see also under* Air pollution—2179-2181, 3099, 3463, 3465, 3643, 3679, 5300, 7047

Pachneus litus, 1738
Packing—*see also* Grading, *and individual crops under* packing—
containers—
bags (packages) for fruits, 1783, 2526, 7288
bags (packages) for vegetables, 2526, 3023, 4800, 6559
cartons for fruits, 583, 4410, 6133
cartons for ornamental plants, 5215, 6911
plastic and other liners for, 68
various, for—
apples and pears, 2527, 6130, 6134
fruit, general, 71
grapes, 583
stone fruits, 2532, 4411, 4414
tropical and sub-tropical fruits, 5503, 7373
vegetables, 71, 2935
house—
construction and layout, 2522, 2533
equipment, 2522, 6141, 6276, 7286
operations, economic studies on, 399, 2522, 2525, 6132, 6141, 7286, 7297
sanitation, 3735
methods for—
flowers, 3248, 6789
fruit—*see also individual crops*—general, 72
plants—*see* Nursery stock
vegetables—*see also individual crops*—general, 72
Paeonia—*see* Peony
Paivaea langsdorffii, 7568
Pakistan, crops, 1946
Palms—*see also individual species*—leaf composition, 4160
Palms, root pressure, 1881

Pammene rhediella, 2801, 6434
Panax spp., medicinal plants, 3545
Panicum spp., as weeds, 1678, 1679
Panonychus—
citri—*see* Citrus pests, mite, red
ulmi—
control, biological, 692, 4653, 4715
control, chemical, 694-696, 767, 2761, 2764, 4215, 4217, 4653-4656, 4658, 4661, 4670, 4705, 5909, 6400-6404, 6412
host nutrition affects, 693, 4653, 4657, 4659
host responses to, 4658, 4660, 6408
sprays encourage, 4661, 4705
Pansy—*see under* Viola
Pantomorus godmani, 1738
Pantorhytes spp., on cacao, 3831, 5609
Papain—*see* Papaw products
Papaver spp.—*see also* Poppy—flower initiation and development, 1198
Papaw—
climate, temperature responses, 1998, 2001
diseases, 3915, 3918, 5683, 7472
economics, 1997
flower, sex expression, 2001, 5681, 5682, 7471
fruit quality, factors affecting, 5682
growing in various countries, 1997, 3915
growth substance responses, 3916, 5681
nutrition, 7472
pests, 3915
physiology, 1998
planting methods, 1999
planting on old papaw soil, 193
pollen storage and viability, 2002
products, papain, 3919, 3920, 7473
research in Australia, 2370
research in India, 2371, 2372
seed morphology and development, 3917
seed treatment and germination, 1998, 3916
seedlings, raising, 3915
soil management, irrigation, 5682, 7472
soil management, mulching, 2000
varieties, 2362
Paper—
mulch—*see* Mulching materials, paper
ribbons for precision sowing, 3012
from various plants, 1627, 3502, 6285, 7108
Paprika—*see under* Capsicum
Papua/New Guinea, crops, 1900, 5637
Papua/New Guinea Dep. Agric., A.R., 2369
Parabryocoropsis typicus, 3831
Paralobesia viteana, 4670, 4703
Paramyelois transitella, 751, 2807, 4696, 4704
Paraphelenchus myceliophthorus, 6671
Parasitic plants—*see also Orobanche*—2073, 2608, 5894, 7160
Paratetranychus bioculatus—*see under* Tea, pests, mites
Paratetranychus citri—*see* Citrus pests, mite, red
Paratylenchus spp., unspecified—*see also* Nematodes—687, 1041, 2758, 6398
Paraverpula spp., attacking fruits, 761
Parlatoria pergandii, 7275
Parlatoria spp., on fruit trees, 758
Parsley—
composition, 45, 4071
growing in the U.S.A., 1489
herbicide responses, 3057
seed—
germination, 786
sowing depth, 2843
storage, 787
weed control, 2273, 3085, 6473, 6489, 6490, 6702
Parsnip—
bolting, 3092
composition, 3516, 6709
diseases, 1040, 3093
growing in New Zealand, 3079
herbicide responses, 6708
physiology, 6708
research in Great Britain, 6471
seedlings, overwintering, 3092
weed control, 166, 6702
Parthenium argentatum—*see* Guayule
Parthenocarpy—
induced by girdling, 1713, 1714
induced by growth substances—*see under* Growth-substances, fruit set
natural—
in cauliflower, 4795
in plants, general, 6101
in temperate fruits, 2502, 4382, 4387, 4388
in tropical fruits, 2161
Parthenocissus tricuspidata, 5837
Paspalum distichum, 2072
Passiflora—*see also* Passion fruit—
caerulea, 2237
mollissima, 3768
spp. in Australia, 3767
Passion fruit (mainly *Passiflora edulis*)—
breeding and selection, 1803, 2370
diseases, fungus, 1802, 1803
diseases, virus, 3769, 7330
fruit—
characters, correlations between, 1805
composition, 1805, 1819, 3768, 5529
harvesting date, 5529
growing in various countries, 3767, 3768
pests, 1804
products and by-products, 1806
propagation and rootstocks, 1802, 1803
soil fumigation, 193
Paullinia cupana, 3629
Pea—
breeding, selection and genetics, 773, 1069, 2370, 2976, 2994, 4746, 4920
climate—
drought, anti-transpirant sprays offset, 6612
frost hardiness, 4910
temperature—*see also below*, physiology—sums for, 2980, 4911
composition—
plant, 24, 44, 957, 960, 2989, 4106, 4914, 4922, 6616

Pea—composition (*continued*)—
seed and pod—
antifungal compounds, 89, 155, 2275
carbohydrates, 956, 2989, 4915, 6624
enzymes—*see below*, physiology
as an index of maturity, 4916
nitrogenous compounds, 956, 4919, 6624, 6625
various compounds, 923, 956, 957, 3001, 4161, 4162, 6615, 6616
vitamins, 2861
diseases—
fungus—
Aspergillus spp., 6629
damping-off or seedling blight (*Corticium* and *Pythium* spp.), 4920, 4921, 5901
foot or root rot or wilt (*Fusarium* spp.), 183, 803, 2995, 4926, 4927, 5975, 6497
leaf and pod spot and blight or foot rot (*Ascochyta* and *Mycosphaerella* spp.), 87, 183, 773, 936, 964, 965, 2978, 2993
Peronospora pisi, 4925
Phytophthora cinnamomi, 3645
powdery mildew (*Erysiphe polygoni*), 4140, 4924
root rot (*Aphanomyces* spp.), 2994-2996, 4922, 4923, 6627, 6628
general, 963
non-parasitic, 2981, 4918
varietal resistance, 87, 954, 2978, 2994, 4920
virus, 966, 1429, 4919, 6496
flower bud initiation and development, 2250, 4912, 6623
flower removal, growth responses to, 2983
fruit physiology and development, 4218
growing—
as an intercrop, 6054
in plastic pots, 5821
Res. Organ., Yaxley, A.R., 954
in various countries, 779, 3003, 4903, 4904, 6608
growth—*see also below*, root—
factors affecting, 2980, 2982, 6615, 6621, 6622
senescence, 2983
-substances, endogenous, 65, 923, 4917, 6623
-substances, responses, 49, 61, 63, 959, 2248, 2250, 2982, 2983, 4115, 4117, 5865-5867, 5872, 5875, 5877, 6619, 6620, 6623
harvesting machinery, 468, 6506, 6634, 6635
harvesting, time of, 3003
herbicide responses—*see also below*, soil management, weed control—962, 2986-2988, 4127, 4129, 4913, 4914, 5887, 6484, 6618
leaf—
growth and development, 960
removal, yield responses to, 6626
wax, 4129

Pea (*continued*)—
mitochondria, 4166
nutrition—
manuring and major elements, 954, 2358, 2359, 2849, 2989-2991, 6614-6616
minor elements, 24, 2851
sugars, 2220, 2231
vitamins, 2231
pests—
aphid (*Macrosiphum pisi*), 966, 967, 4217, 6630
bean pyralid (*Etiella zinckenella*), 6631
cutworms, 4906
leaf miner (*Liriomyza pusilla*), 6502
leatherjackets, 4906
midge (*Contarinia pisi*), 2999
moth (*Cydia nigricana*), 87, 88, 954, 968, 4928
nematodes, 96, 2996, 2997
thrips (*Kakothrips* and *Thrips* spp.), 3000
weevil (*Sitona lineatus*), 2998, 6632
physiology—*see also above*, growth—
absorption of nutrients, 2990, 4074
acetate metabolism, 6619
alcohol metabolism, 5858
carbon assimilation and metabolism, 4915, 5877, 6620
chlorophyll and plastid synthesis, 4092
enzyme activity, 23, 24, 47, 3002, 4092, 4106, 4211, 5856
growth substance metabolism and response—*see above*, growth-substances
of maturing fruit and seeds, 3001, 4218
mitosis in roots, inhibition of, 5833
organic acid metabolism, 44, 5295
photoperiodic and other light responses, 63, 958, 961, 2220, 2981, 2982, 2991, 4746, 4912, 6621, 6622
photosynthesis, 5875
protein metabolism, 6625
respiration, 11, 6633
temperature responses, 2231, 2990, 6624
tissue culture, 2220
translocation, 4115, 4914, 6616
water relations, 5887
pollination, 2259
processing, 947, 956, 2975, 3003
research in—
Australia, 2340
Belgium, 2344
the U.S.A., 5977
root(s)—
attraction of fungi to, 3645
exudates, 2239
growth, 51
growth substances in, 65
nodule formation, 65, 2991, 2992
seed—
coat permeability to gases, 10
composition—*see above*, composition
drying, 4918
germination, 791, 2843, 2988, 4127, 4921, 5858, 6625, 6629

Pea—seed (*continued*)—
injury during threshing, 6635
maturation—*see also above*, climate, temperature sums—170, 3001, 3002, 4218, 6624, 6626
production, 2989, 4905
respiration, 11
sowing—
depth, 2843
rate, 954, 961, 2984, 4906
time of, 2368, 4904
storage, 6629
testing, 5815
treatment—
with *N*-ethylmaleimide, 6625
with fumigants, 5901
with fungicides, 88, 789, 805, 965, 2365, 5964
with growth substances, 4053, 5875
with insecticides, 789
with minor elements, 23, 24
vernalization, 6623
yellow, abnormal, 961
soil—
management—
cultivation, 179
fumigation, 183, 4921
irrigation, 166, 773, 954, 4909, 6613
weed control, 76, 166, 799, 800, 802, 954, 962, 2336, 2337, 2347, 2852, 2984-2986, 4756, 4906, 4913, 4914, 6488, 6617, 6618
moisture requirements, 4909
spray residues, 2858
sweet—*see* Sweet pea
varieties, 168, 774, 778, 947, 954-956, 2352, 2364, 2371, 2840, 2977-2979, 4904, 4907, 4908, 4910, 4920, 6608-6611, 6631
Peach—
breeding and selection, 2359, 4266, 5999, 6017
climate—
phenological data, 6018
rain responses, 6095
spring frost injury and protection, 274, 2450, 4303
temperature responses, 258, 2449, 2487, 4111, 4303, 4304, 6078
winter chilling requirements, 4268, 6017, 6019
winter hardiness and injury, 180, 274-276, 2419, 2450
composition—*see also below*, growth-substances—
flower, 329, 330
fruit, 305, 352, 2263, 4327, 4333, 4402
leaf, 275, 329, 2301, 4327, 4333, 4355
root, 2462, 2488
whole plant, 4323
diseases—
bacterial, bacterial spot (*Xanthomonas pruni*), 171, 634, 665, 6345
Peach—diseases (*continued*)—
fungus—
anthracnose (*Gloeosporium laeticolor*), 2741
black knot (*Dibotryon morbosum*), 4632
brown rot and blossom blight (*Sclerotinia* (*Monilia*) spp.), 432, 433, 664, 4424, 4437, 4633, 6170
canker (*Fusicoccum amygdali*), 5970
Clitocybe tabescens, 4573
fruit rot (*Rhizopus* spp.), 4436-4438, 6170
fruit rots, various or unspecified, 2692, 4439, 6171
leaf curl (*Taphrina deformans*), 4634, 6370-6372
mildew (fungus unspecified), 6359
root rots, various, 608
scab or freckle (*Fusicladium* (*Cladosporium*) *carpophilum*), 665, 4635
silver leaf (*Stereum purpureum*), 660
wilt or black heart (*Verticillium* spp.), 180
general, 4568
non-parasitic, 2454
resistance, 232, 6370
virus, 621, 2712, 2717, 2718, 4589, 6327, 6328
economics and labour costs, 396, 404, 6141
flower(s)—
abnormalities, 357
bud drop, 6019
bud initiation and development, 328, 329, 2487, 2488, 6110
thinning—*see also below*, fruit—373, 6110
fruit—*see also above*, composition *and below*, harvesting, marketing, packing *and* storage—
colour, factors affecting, 171, 2510
drop, 2488
enzyme activity, 384
firmness, determination, 431
growth substances in, 352
hot-water treatment, 4439, 6171
hydrocooling, 4412, 4413, 6170
parthenocarpy, 4387, 4388
quality, demand in relation to, 409
quality, factors affecting, 305, 378, 4327
ripening and maturity—
chemical changes during, 4402
dates, 6016
factors affecting, 171, 433, 2510
standards, 395
tests for, 431
size, 2509, 2510, 4327, 4370, 4387, 6095
sweetening by saccharin trunk injection, 383
thinning—*see also above*, flower—180, 296, 373, 2509, 5976, 6095, 6109, 6110, 6137
tissue culture, 5836
yield variation, 5991

Peach (*continued*)—
growing in various countries, 216, 2382, 4252, 4254, 5998
growth—*see also below*, root—
dormancy, factors affecting, 4355
dormancy, prolonged—*see above*, climate, winter chilling
lignification, 4355
physiological dwarfing, 258, 2486
-substances, endogenous, 55, 328, 330, 352, 2517, 4355
-substances, responses, 55, 171, 274, 2510, 4388, 6077
harvesting—
bulk or mechanical, 394, 402, 403, 2530, 4415, 6137
economics, 396
grading during, 403
injuries to fruit during, 2531
methods, general, 401
time of, 2531
leaf—
composition—*see above*, composition
defoliation, artificial, 248, 2487
defoliation, premature, 2488
marketing, 401, 405, 5998
mutations, 6022
× myrobalan hybrid, 4271
nutrition—
foliar, 308, 319, 4329
magnesium, 2474
manuring in general, 2474, 5990
minor elements, 319, 2474, 4333
nitrogen, 275, 276, 305, 308, 2487, 4319, 4327, 4329, 6067
phosphorus, 305, 2487, 4319, 6067, 6069
potassium, 305, 2474, 4319, 6067
packing—
containers, 2532, 4413, 4414
economics, 404, 6141
grading, 402
methods, general, 401, 6141
plastic liners for, 4413
pests—
aphids (*Hyalopterus amygdali* and *Myzus persicae*), 2773, 4681
birds, 2823
cat-facing and dimpling caused by, 2781
fruit flies (various spp.), 731, 733, 2786-2788
fruit moth (*Carposina niponsis*), 749
general, 4725, 4727
lygus bugs, 2782
mealybug (*Pseudococcus comstocki*), 2818
mite (*Tetranychus telarius*), 697
nematodes, 260, 2756
oriental fruit moth (*Cydia molesta*), 748, 2803, 2804
scales (various spp.), 759, 2814-2816, 6450, 6451
stink bugs (various spp.), 2781, 2782
thrips, 2782
tortrix moth (*Acleris rhombana*), 2802
Peach—pests (*continued*)—
tree borer (*Sanninoidea exitiosa*), 2805, 6407, 6446
tree borer, lesser (*Synanthedon pictipes*), 2806, 4215
twig borer (*Anarsia lineatella*), 4696
physiology—
absorption of growth substances, 4352
enzyme activity, 308, 384, 4329, 4355
heat injury, translocation of, 4111
protoplasm condensation, 274
respiration, 2449, 4355
temperature responses—*see above*, climate
tissue culture, 5836
translocation, 5342
planting on old orchard soils, 608, 4573, 6327
planting, spacing, 6080
× plum hybrid, 2420
pollen morphology and sterility, 2504
production and trade, 409
propagation—*see also below*, rootstocks *and* seed—budding and grafting, 4055, 6025
pruning and training, 276, 296, 344, 2500, 4370, 6095
research in—
Australia, 4226, 5963
Canada, 4215
India, 2372
the U.S.A., 4221, 4228
root(s)—
cation-exchange capacity, 2462
growth, 5990
systems, 2484, 2485
as a rootstock for apricot, 6011
rootstock(s)—
apricot, 660
myrobalan, 660
nematode resistance, 260, 6017
peach seedlings, 259, 260, 2445
plum, 259
in various countries, 2390, 2393
seed—
germination, 258, 2439, 2445, 4296, 6078
growth substances in, 2517
ripening and lignification, 2439, 4395
treatment, 2439, 4296
variety identification from, 2417
soil—
management—
irrigation, 296, 2363, 2474, 6063
mulching, 275
weed control, 76, 281, 4311
types, 6049
waterlogging, 2454
spray injury, 4717, 6345
storage, 431, 432, 2347, 2370, 2532, 4412, 4413, 4424, 4437-4439, 6170, 6171
varieties—*see also above*, mutations—
for canning, 2418
disease resistance, 232, 6370
hardiness, 4266
identification, 2417, 6016

Peach—varieties (*continued*)—
Jefferson, 233
Madeleine Pouyet, 6021
Morettini, 2389, 6020
Nuevo, 4269
ornamental, 6017
seedlings of, 4266
Sharbati, 2418
Suncling, 4270
in various countries, 213, 221, 232, 2351, 2387, 2388, 2393, 2421, 4256, 4267, 4268, 6015, 6017-6019
for wine production, 2551
Pear—*see also Pyrus*—
breeding and selection, 219, 2384, 2407, 5999
climate—
spring frost injury and protection, 4382, 6101
temperature responses, 2449, 2452, 6310
windbreaks and wind responses, 2378
winter injury and hardiness, 2407, 2438
composition—
fruit, 122, 352, 381, 2407, 2508, 2550, 6116
leaf, 636, 4326, 4344, 4345
root, 2462
seed, 239
whole plant, 4323
diseases—
bacterial, fire-blight (*Erwinia amylovora*), 635, 636, 2267, 2411, 2725, 2726, 4287, 6342, 6343
cause uncertain—
bark measles, 2702, 6311
black end of fruit, 254
decline, 253, 2269, 2697-2701, 4287, 4691, 6116, 6310
papery bark canker, 6350
fungus—
canker (fungus unspecified), 2730
canker (*Nectria* spp.), 6350
flyspeck (*Leptothyrium pomi*), 6367
fruit rots, unspecified, 5990
grey mould and dry eye rot (*Botrytis cinerea*), 4424, 4613
Phomopsis mali, 658, 2733
phytophthora collar rot (*Phytophthora cactorum*), 6354
rust (*Gymnosporangium fuscum*), 657
scab (*Venturia pirina*), 6350, 6364
Schizophyllum commune, 4628
silver leaf (*Stereum purpureum*), 659
sooty blotch (*Gloeodes pomigena*), 6367
general, 4568, 4569
non-parasitic—*see also below*, storage—leaf scorch, 6408
varietal resistance, 2411, 4584
virus—
general, 621, 2269, 2707, 4584, 6315, 6321
indicators for, 4583
quince bark necrosis, 4582
ring pattern mosaic, 4583, 6322
stony pit, 2707, 4584
Pear—diseases—virus (*continued*)—
-tested mother trees, 4213
vein yellows, 4582
economics, 2694, 4410, 5992
flower bud position, 2482
fruit—*see also above*, composition, *and below*, harvesting, marketing, packing *and* storage—
aroma, 122
cell development, 2508
colour, factors affecting, 6116
drop, spraying to retard, 358
enzyme activity, 381, 2507
freezing studies, 2452, 6153
growth substances in, 352
quality, factors affecting, 2344, 6040, 6116
ripening and maturity—*see also below*, storage—
chemical changes associated with, 381
morphological and anatomical changes associated with, 2508
standards, 395
set—
factors affecting, 346, 2501
growth substances improve, 358
parthenocarpic, natural and induced, 358, 2502, 4382, 6101
shape, factors affecting, 358
stone cells, 4400
yield variation, 5991
growing—
in Canada, 4254
in Italy, 5994
of perry, 214
growth—*see also below*, root—
cambial development, 2480
leaf colour in autumn related to, 2481
plant exudates affect, 289
-substances, responses, 358
trunk girth, factors affecting, 5990
harvesting—
economics, 5992
mechanical, 396, 6137
time of, 6136, 6155
herbicide responses, 282, 4314
interstocks, 211, 251, 252, 2378, 2437, 2438, 2490, 6040, 6311
leaf—*see also above*, composition—autumn colour, 2481
marketing, 6113
mutations, 219
nutrition—
foliar, 314, 319
leaf analysis as a guide to, 4326
manuring and major elements in general, 636, 2336, 4350, 6342, 6354
minor elements, 314, 319, 636
nitrogen, 636, 2726, 4318, 4326
phosphorus, 636, 2726, 4318
potassium, 636, 2726, 4318, 4331
packing and grading, 2527, 4410
perry, growing in Great Britain, 214

Pear (*continued*)—
pests—
aphids, 2771, 4679
birds, 2823
blossom weevil (*Anthonomus cinctus*), 6417
borer (*Corthylus* sp.), 5984
codling moth (*Cydia pomonella*), 2765
control, general, 4569, 4727
fruit flies (*Ceratitis capitata* and other species), 731, 2786, 2787
fruit moth (*Cydia pyrivora*), 4700
leaf miner (*Lyonetia clerkella*), 6435
leopard moth (*Zeuzera pyrina*), 740
mealybugs (*Pseudococcus* spp.), 171, 2817
midge, gall (*Contarinia pyrivora*), 2791
mites—
leaf blister or bud (*Phytoptus* and *Phyllocoptes* spp.), 2765, 2771
rust (*Epitrimerus pyri*), 6408
spider (*Bryobia, Panonychus* and *Tetranychus* spp.), 697, 767, 2764, 2771, 4658, 6399, 6408
oriental fruit moth (*Cydia molesta*), 2804
scale, San José (*Quadraspidiotus perniciosus*), 757
slugworm (*Caliroa* spp.), 4706
sucker or psylla (*Psylla* (*Chermes*) spp.), 104, 754, 760, 2700, 2764, 4690, 4691, 5909, 6408, 6443, 6444
tingid (*Stephanitis pyri*), 2820
tortrix (various species), 2801, 2802
physiology—
amino acid synthesis, 636
enzyme activity, 381, 2507
radiation responses, 219, 2412
respiration, 2449, 2508
planting—
depth, 2490
spacing, 5955, 6080, 6081
transplanting mature trees, 6081
pollination—
artificial, 2501, 2502
of frost-damaged flowers, 4382
pollen viability and germination, 2502
varieties as pollinators, 4381
production and trade, 2410
propagation—*see also below*, rootstocks—
by budding and grafting, 251, 4055, 6798
by cuttings with nurse-root graft, 250, 4276
by cuttings, stem or root, 249, 4287, 6037, 3038
pruning and training, 337, 340, 2478, 2499, 5955, 6091-6093
research in Australia, 2340, 4226
root(s)—
cation-exchange capacity, 2462
growth, 4318
induction, factors affecting, 2426
systems, 2483, 2484, 4350
rootstocks—*see also above*, interstocks *and* propagation—
own roots compared with, 6155
pear clones and seedlings, 250, 252, 4287
Pear—rootstocks (*continued*)—
Pyrus spp., 254, 2697-2699, 4286, 4288, 6039, 6040
quince, 211, 4288, 6039
-scion relationships, 252, 2359, 2490, 2697-2699, 6040
seedling, raising of, 4286, 6028
in various countries, 2378, 2391, 2393, 4274
seed—
anatomy, 239
-bed management, 278
extraction, 4286
number, factors affecting, 2501
production, 2425
soil—
compaction, 287
management—
cover crops and grass, 289, 2378
cultivation, 2378
irrigation, 6354
mulching, 162
weeds and their control, 76, 278, 281, 289, 4311, 4314, 4459
spray(s)(ing)—
concentrate, 4727
economics, 2694
injury, 697, 4717, 4723
programmes, 2694
storage—
air washing, 6354
cold, 68, 6145, 6153-6155, 6169
dips and coatings, 6168
diseases and disorders, 2538, 2550, 4419, 6155, 6168, 6169
gamma radiation responses, 4424
gas, 68, 2550, 6154
general, 2356
metabolism, 2347
plastic bags or box liners, 2538, 6155, 6168, 6169
pre-cooling treatment, 6147
quality, factors affecting, 378, 4419, 6040, 6155
ripening, 2539
varietal behaviour, 4419, 6155
wraps, 6168, 6169
varieties—
disease resistance, 2411, 4584
early, 2409, 2410
flower characteristics, 2482
Gentilona, 6009
hardiness, 252
Morettini selections, 230, 2389, 2413
for processing, 222, 2539
in various countries, 211, 213, 221, 2354, 2387, 2388, 2390, 2391, 2393, 2395, 2408-2410, 4256, 4262, 5955, 5994, 6001, 6007, 6008
Williams' Bon Chrétien (Bartlett) and its sports, 2539, 6169
for wine production, 2551
wild, in Sardinia, 2483

Peat—
disease incidence increased by, 3598
extract, growth stimulation by, 7086
as a forcing medium for chicory, 4944
horticultural uses, general, 5105
as a medium for vegetables, ornamentals and other plants, 30, 975, 1036, 1267, 2343, 3194, 3195, 3246, 3342, 3366, 3367, 3395, 4744, 5141, 5143, 5144, 5175, 5201, 6493, 6904, 6915, 6959
as a mulching material, 2336, 3428, 6809
for mushroom bed casing, 3041, 4950
nutrition of plants grown in, 30, 975, 1267, 2336, 2881, 3190, 3194, 3195, 3342, 3367, 6916, 6959
pots or blocks—*see under* Pots, soil
in potting composts, 1079, 1192, 3395, 5040, 5822, 6929, 6949
as a rooting medium for cuttings, 2336
for seedling raising, 3428
soil improvement by incorporating, 303, 1306, 6473
sources of, 3395, 5204
Pecan—
a bibliography on, 6288
composition, leaf, 2688
composition, nut, 6291, 6440
diseases, 668, 669, 4221, 4652, 6373-6376
flower biology, 6301
growth substance responses, 593
nut storage, 596
nutrition, 2688
pests, 6440
pollination, 6301
production and trade, 6289
propagation, vegetative, 594, 2686
root growth, 2688
as a rootstock for walnut, 2690
rootstocks, 2686
seed treatment, 593
soil management, cover crops, 2687
spray injury, 669
tree spacing and thinning, 595
varieties, 5985
Pectic substances—
cation exchange in relation to, 6266
determination, 126, 3742
in various plants, 126, 381, 1131, 1775, 7300, 7301
Pectobacterium carotovorum—see Erwinia carotovora
Pectobacterium parthenii, 3226, 3228
Peganum harmala, 1615
Pelargonium—see under Geranium
Pellicularia—
filamentosa, 804
rolfsii—see Sclerotium
spp., unspecified, 1138
Pemphigus bursarius, 6499, 6662
Penicillium—
cyclopium, 6497
digitatum, 1769, 1770, 3736, 4424, 5498-5501, 7292, 7293
Penicillium (*continued*)—
expansum, 6348, 7293
frequentans, 5497
funiculosum, 6848
glaucum, 6152
italicum, 3736, 4424
puberulum, 6314
spp., unspecified, 2365, 6282, 6379, 6497, 6689, 7292
Pennisetum clandestinum, 1249
Pennisetum glaucum, 1442
Penstemon breeding and cultivation, 1195
Pentaclethra macrophylla, 3519
Pentalonia nigronervosa, 3817
Pentatrichopus fragaefolii, 4597
Penthaleus haematopus, 3021
Peony—
composition, 3253
diseases, 1294, 5148
seed embryogeny, dormancy and after-ripening, 1196, 1197
Pepper, black (*Piper*)—
composition, 1496
diseases, 1491, 1495, 3517, 7114
growing in various countries, 1490, 1491, 1493, 7113
nutrition, 1494, 2364
pests, 1495
propagation, vegetative, 1492, 3517
research in Sarawak, 2374
research in West Africa, 5978
soil management, mulching, 1495
Pepper, red and sweet—*see* Capsicum
Peppermint—*see under* Mint
Perfume plants—*see under* Essential oils
Pericerya purchasi—see Icerya
Perilla—
growth substance responses, 5852
light responses, 36, 1616, 2221, 4086, 5852
soilless culture, 29
tissue culture, 2221, 4086
Perina nuda, 6442
Periodicals, new or revived, 206-208, 4240, 4241, 5987
Peronea contaminana—see Acleris rhombana
Peronospora—
antirrhini, 1202
arborescens, 87
brassicae, 4806
cannabina—see Pseudoperonospora
destructor—see Onion diseases, fungus, downy mildew
effusa, 5005
parasitica, 980, 6539
pisi, 4925
rubi, 173
tabacina—see Tobacco diseases, fungus, blue mould
Perowskia atriplicifolia, 6803
Perry—*see under* Pear
Persea spp.—*see also* Avocado—disease resistance, 1639, 5440

Persimmon (*Diospyros kaki* and other *Diospyros* spp.)—
climate, temperature responses, 2449
composition, fruit, 1811, 3772
composition, root, 2462
diseases, 3771, 5530
flower bud initiation and development, 1809
fruit—*see also above*, composition, *and below*, storage—
astringency, methods of reducing, 1812
pigments, 1811
set, factors affecting
growth substances, endogenous, 5876
pests, 3770
physiology, 2449, 3771
pollination, 1810
root, cation-exchange capacity, 2462
rootstocks, 3770
soil management, methods compared, 1808
storage, 1812, 3772
varieties, 1807
Peru, crops, vegetables, 6716
Pest(s)—*see also* Insects *and individual pests and hosts*—
cell walls and contents affected by, 1559
control—*see also* Acaricides, Insecticides, Plant protection *and* Rodenticides—
biological—*see also* Bacteria, Codling moth, Fungi, Mites, Sugar-cane pests *and* Virus, insect—87, 603, 718, 722, 754, 757, 760, 809, 1140, 1444, 1799, 1852, 2145, 2280, 2334, 2366, 2692, 2767, 2774, 2785, 2813, 2816, 2858, 2908, 2909, 2969, 3574, 3646, 3725, 4236, 4674, 4680, 4702, 4814, 5480, 5489-5491, 5524, 5557, 5745, 5984, 6425, 6435, 6441, 6449, 6452, 6515, 6543, 7274
economics, 601, 602, 3045
on fruit crops—*see* Fruit trees
in glasshouses, 6793
by irradiation, 4216, 6431, 7327
recommendations, general, 2278
identification, 5896
incidence—
factors affecting, 692, 2911
forecasting, 4928, 6439, 7265
sampling for, 4676
Infestation Res. Bd, A.R., 4223
losses from, 95, 3851
plant resistance—
breeding for, 4896
factors associated with, 2970, 5325
specific and varietal, 4861, 4894, 5015
radioactive labelling of, 737
of tropical crops, a book on, 5539
in various countries, 710, 711
Pestalotia theae, 5763
Pestalotiopsis versicolor, 6952
Pesticides Res. Inst., London, Ont., Res. Rep., 86
Petasites japonicus, 5102
Petunia—
air pollution injury, 2180
Petunia (*continued*)—
composition, 2959
diseases, 5149
growth substance responses, 1154, 1156
light and temperature responses, 1156, 1190
salt tolerance, 2959, 3197
seedling production, 1190
as a virus indicator, 6338
weed control, 6808
Peyronellaea glomerata, 4650
pH—*see also* Soil pH—of cell sap, disease resistance in relation to, 5311
Phacelia tanacetifolia, 2458, 3586
Phalaenoides glycine, 2810
Phalaenopsis orchids—*see also under* Orchids—1267, 6914, 6916
Pharbitis hederacea (syn. *P. nil* and *Ipomoea nil*), 3251, 5851, 5876
Phaseolus spp.—*see also* Beans (*Phaseolus*)—pest resistance, 4896
Phaseolus spp., taxonomy and composition, 4877
Phelipea—see Orobanche
Phenocopies, production with chemicals, 5145
Phenolic compounds—*see also* Polyphenols *and* Tannins—
biosynthesis, 7046
metabolic functions, 4355, 4988
plant responses to applied, 5031
in various plants, 471, 4355, 5400, 5554, 6839
Phenology—*see under* Climate
Phialophora cinerescens—see Verticillium
Philippia oleae, 1796
Philodendron—
diseases, 5198
nutrition, 5830
packing, 6911
temperature responses, 1260, 6911
Phloem—
development cycle in apple, 321
enzyme activity in, 2237
respiration, 2236, 2237
Phloeotribus scarabaeoides, 1796
Phloridzin in apple trees, 649, 6308
Phloridzin, growth regulating activity, 54, 4380
Phlox—
growth substance responses, 1156
light and temperature responses, 1156
propagation, vegetative, 5803
seed storage, 4051
varieties, 5955
Phoma—
citricarpa—see Guignardia
flaccida, 611
lingam, 87, 6473, 6540
spp., unspecified 2356, 2907
Phomopsis juniperovora, 6919
Phomopsis mali, 658, 2733
Phoradendron flavescens—see under Mistletoe
Phormium tenax, growing in South Africa, 1597
Phorodon humuli, 3592, 6330
Phorodon menthae, 3566

Phosphorus—*see also individual crops under* nutrition—
absorption, factors affecting, 26, 1048, 1095, 2224, 2677, 2923, 2990, 3131, 3649, 4067, 4869, 4874, 5035, 5054, 5222, 6069, 6269, 6589, 6747
application, foliar, 194, 569, 1309, 1919, 2763, 3443, 4075, 4320, 4546, 4869, 5054, 5834, 6267, 6268
application by injection, 4330
contents of plants, factors affecting, 567, 900, 931, 1044, 1048, 1103, 2959, 2989, 3095, 3399, 3693, 5055, 5185, 5247, 5275, 5686, 6616, 7240, 7395, 7489
contents of plants, tropical vegetables, 1817
deficiency symptoms, 1821, 1860, 1944, 5686, 6710, 6880, 7383
deficiency, virus symptoms affected by, 4598
determination, 2300, 3015
disease resistance in relation to, 2726, 3293, 3483, 5312, 6765
insecticides—*see under* Acaricides *and* Insecticides
interrelationships with—
calcium and pH changes caused by liming, 1092, 1919, 2469, 5055
iron, 498, 1095, 2469, 3697
magnesium, 1092, 2138, 2469, 6751
manganese, 1096
minor elements, various, 931, 3697, 4868
nitrogen—*see* Nitrogen
potassium, 568, 636, 1092, 3099, 3100, 5462, 5686, 5732, 6751
metabolism in plants, 3151, 4231, 6616
metabolism in seeds, 4934
nutrition, plant analysis as a guide to, 498, 4075, 7395
ozone injury in relation to, 3099
plant metabolism and organic composition affected by, 478, 3100, 3101, 5965
radioactive, 26, 348, 465, 737, 1048, 2115, 2867, 3131, 3134, 3443, 4170, 4726, 4869, 4874, 5035, 5051, 5054, 5834, 6069, 6070, 6269, 6589, 6616, 7043, 7156, 7392
root nodulation affected by, 2991, 6615
seed germination affected by, 6535
sources, 1095, 1388, 3443, 5188, 6564, 6644, 6645, 7011, 7396
translocation, 26, 465, 3134, 3443, 4874, 5054, 5222, 6589, 6616
Photinia glabra, 3205
Photography, aerial, for vineyard survey, 508
Photometry, flame, 2300, 4161, 5924
Photoperiod(ism)—
anatomical and morphological aspects, 6813
apparatus and materials for controlling, 776
control by cyclic lighting, 1176-1178, 3303, 4176, 5124, 5125, 6821
disease incidence affected by, 3013
flower sex affected by, 896, 2226, 2922, 2927
frost resistance affected by, 1683
growth substance relationships—*see* Growth-substances
Photoperiod(ism) (*continued*)—
nematode populations affected by, 164
photoreversibility of the effects of, 2225
physiological aspects, 32, 33, 324, 1616, 2225, 2354, 3287, 4084, 4085, 5222, 5243, 5851, 5852, 6953
plant composition in relation to, 466, 1050, 2227, 2228, 3434, 4084, 6114
plant responses—*see also* Begonia, Chrysanthemum, *Kalanchoe*, Strawberry, Sugarcane *and* Tomato, *under* physiology, *and* Perilla, light—
fruit trees, deciduous, 32, 323, 324
ornamentals—
annuals and biennials, 1156, 1201, 2350, 4088
bulbs, tubers, etc., 3287, 3300, 3303
herbaceous, 1164, 3224, 5379, 5965, 6813
succulents, 1259
woody, 32, 1305, 1343, 1344, 3383, 5222, 5232, 5243, 6922, 6953
small fruits and vines, 2513, 2586, 2646, 2647
tobacco and other *Nicotiana* spp., 164, 1412, 3434, 3450
tropical and sub-tropical plants, 1687, 1998, 2375, 4211, 5454
various plants, 33, 1534, 1556, 2226, 3510, 5379, 5849, 7127
vegetables, 818, 896, 926, 958, 1050, 2222, 2227, 2229, 2347, 2887, 2927, 3013, 4084, 4747, 4840, 4912
root growth affected by, 2229
rooting of cuttings and layers affected by, 1305, 6189
seed responses to, 2887
temperature interactions, 1259, 3287, 4088, 5379, 6922
Photosynthesis, 78, 131, 156, 311, 325, 465, 533, 1111, 1838, 2309, 2469, 3096, 3139, 3448, 3456, 3679, 3798, 4088, 4093, 4094, 4125, 4126, 4182, 4332, 4521, 4522, 5280, 5765, 5839, 5842, 5843, 5845, 5847, 5874, 5875, 5886, 6238, 6708
Phragmidium—
mucronatum, 5971
sp. on rose, 3378
subcorticium, 3374
Phragmites communis, 2072
Phycopeltis sp. on hevea, 2022
Phyllachora sp. on bananas, 3805
Phyllanthus emblica, 2162, 4037, 5792
Phyllocnistis citrella, 195, 4233
Phyllocoptes bougainvillea, 3388
Phyllocoptes oleivorus—see Phyllocoptruta
Phyllocoptruta oleivora, 1743, 1746, 3652, 4238, 5483-5487, 7271, 7272
Phyllosphere, micro-organisms in, 2168
Phyllostachys spp., bamboos, 3502, 3503
Phyllosticta—
antirrhini, 1186
mali, 644
solitaria, 640

Phyllosticta (*continued*)—
sp. on olives, 1796
Phyllotreta spp. on crucifers and other vegetables, 853-855, 4810
Phylloxera—*see* Vine pests
Physalis peruviana, 1109, 2365
Physalis spp., as weeds, 1822
Physalospora tucumanensis—*see* Sugar-cane diseases, fungus, red rot
Physiology, plant—*see* Plant
Physocarpus spp., storage of plants, 1294
Phytoalexins in plants, 89, 2275
Phytometra chalcytes—*see Plusia chalcytes*
Phytomyza—
ilicis, 1314
minuscula, 1314
orobanchiae, 7160
rufipes, 4813
Phytoncides from plants—*see also* Antibiotics *and* Ethylene emission—3253, 6691
Phytophthora—
arecae, 1823
cactorum, 637, 643, 2692, 4611, 6354, 6355, 6368, 6383, 6386
cambivora, 667
cinnamomi, 588, 667, 1329, 1639, 1640, 3636, 3645, 3749, 5440, 5519, 6920, 6952, 7211, 7212
citrophthora—*see also under* Citrus diseases, fungus, gummosis—6724
cryptogea, 3247
erythroseptica, 5739
fragariae—*see* Strawberry diseases, fungus, red core
infestans on tomato—*see* Tomato diseases, fungus, blight, late
megasperma, 5739
palmivora, 201, 203, 1854, 1863, 2007, 3828, 3829, 3938, 5602, 5603, 5978, 7388, 7389, 7564
parasitica, 3482, 3483, 5149, 5257, 7084, 7085, 7263
phaseoli, 6596
porri, 6473
spp., unspecified, 1294, 1586, 6836, 7114, 7196
Phytoptus—
avellanae, 703
essigi, 706, 4665
piri, 2765, 4663
ribis, 691, 704, 705, 4568, 4666, 4667, 4722, 5971, 6409
Phytosanitary regulations—*see* Quarantine
Phytoseiulus spp., predacious mites, 2281
Phytotrons, 130, 2307, 2308, 4177, 4178, 5933
Picea spp.—
diseases, 6798
propagation, 1273, 1294
and varieties, 1272
weed control, 3350
wood for fruit boxes, 430
Pichilingue trop. exp. Stat., Eduador, A.R., 4237
Picralima nitida, alkaloids from, 5359
Picrorhiza kurroa, 5358
Pieris (butterfly)—
brassicae, 107, 862
rapae, 108, 853, 860, 861, 2909, 4814
spp., unspecified, 2910
Pieris (Ericaceae) spp., propagation and photoperiodic responses, 1305
Piezodorus lituratus, 728
Pigments—*see also* Chlorophyll—
anthocyanin, determination, 2610, 5151
anthocyanin, in plants, 219, 1194, 1501, 2610, 2619, 5150, 5151, 5211, 5400
carotenoid—*see also* Vitamin A—biosynthesis, 2177, 3187, 5013, 5846, 6725
carotenoid, in plants, 24, 866, 2006, 4916, 5097, 5099, 6563
flavonoid—
biosynthesis, 7254
determination, 3743, 5512, 6709
in plants, 1332, 1423, 3527, 3554, 3630, 3743, 4106, 4345, 4975, 5210, 5211, 5856, 6709, 6956, 7254, 7299
pollen germination affected by, 5186
variety identification in relation to, 813
general—
content, factors affecting, 24, 478, 3104, 3158
determination, 3109, 6281
disease resistance in relation to, 908, 5478
phytochrome, 182
various, in mushrooms, 6675
various, in plants, 45, 1203, 3559, 5125, 5153, 5210, 7140, 7310
Pimento (allspice) (*Pimenta officinalis*), 3518, 4234
Pimpinella anisum, 1474
Pine—*see Pinus*
Pineapple—
composition, fruit, 2006, 5686, 7340
composition, leaf, 5686, 5688
diseases, general, 4236
flowering, treatments to advance or delay, 3921, 7478
fruit—*see also above*, composition—
pigments, 2006
quality, factors affecting, 197, 5686
ripening, changes during, 7340
ripening, factors affecting, 5686
yields, leaf weights in relation to, 7479
growing in various countries, 5684, 5685, 7474
growth substances, responses, 3921
nutrition, 2365, 3698, 5686, 5687, 5984, 7477
pests, 2005, 3922, 3923, 5540
planting, 5979, 7475
products and by-products, 7480
propagation, 5536, 7475
research in Australia, 2370
root injury by quartz particles, 2003
root systems, 7476
soil management, mulching, 5986
soil management, weed control, 2004

Pineapple (*continued*)—
soilless culture, 2003
varieties, 2364
Pinellia ternata, 1705
Pinguicula vulgaris, 1541
Pinus spp.—*see also* Conifers—
composition, leaf, 2302
as hosts of fruit scale, 758
ornamental value, 3352
propagation, 1273, 5111
weed control, 3350
Pipecolic acid in plants and seeds, 4765, 4879, 4902
Piper—*see also* Pepper, black—*betle*, 3509, 5979
Piper longum, 5905
Piricularia grisea, 7369
Pistachio—
growing in Italy, 6302
growth substances, responses, 597
seed treatment, 597
varieties, 6303
Pistacia atlantica, 597
Pittosporum pests, 6793
Pittosporum, spray injury, 3180
Plane—*see Platanus*
Planococcus citri, 7269
Plant(s)—
analysis—*see also under* Leaf—figures, variations due to season, 4518
breeding—*see also* Breeding *and under separate plants*—Inst., Cambridge, A.R., 5973
parasitic—*see* Parasitic
physiology, books and reviews on, 4083, 4089, 4201
productivity, limits of, a review, 4213
protection—
books on, 75, 5539
chemicals, list of approved, 4132
economics, 4728, 5897
in various countries, 91, 2266, 2858, 4131
Plantago spp., control, 6895
Planting—*see also* Machines, Replanting *and separate crops*—
pricking out, checks due to, 4744
row orientation, 4357
transplanting mature trees, 6081
transplanting tools, 1989
Plasmodiophora brassicae, 773, 794, 2337, 2342, 2878, 2899, 2905, 2906, 4134, 4217, 4229, 5971
Plasmopara viticola—*see* Vine, diseases, fungus, downy mildew
Plastic—
bags for seed germination, 2681, 6742
baskets for packing fruit, 4411
coatings, for transpiration reduction, 16, 6612
films for—
controlling photoperiod, 776
covering—
banana bunches, 3803
fruit trees and vines, 131, 526
seed-beds, 1374, 3427, 4214, 6742, 6993
Plastic—films for—covering (*continued*)—
sports grounds, 6888
watercress beds, 6664
inflated covers, 131, 6888
lining crates, etc., 162, 462, 2340, 4420, 6149, 6150, 6168
lining glasshouses, 139, 2312, 5939
mulching—*see* Mulching materials
mushroom houses, 4948
packaging fruits, nuts, and vegetables, 416, 3023, 4414, 4799, 4800, 7288, 7289, 7374, 7376
packaging plant material, 1569, 5758
plant propagation, 1953, 1957, 3865, 3915, 4011, 4055, 5758, 6290, 6961
storing—
coffee, 7457
cut flowers, 1160
cuttings (rooted and unrooted), 2446
fruits and nuts, 413-416, 2526, 2536-2538, 3738, 3772, 3911, 6155, 6169
plants, 2566, 2568, 6938
seeds, 788
vegetables, 2526
foam for filling tree cavities, 5904
in greenhouses, frames and cloches, 139-142, 153, 453-455, 779, 2322, 2357, 4188-4190, 4212, 4737, 6481, 6583
pipes for collecting maple sap, 1624, 5425, 7198
pots—*see* Pot(s)
ribbons for precision sowing, 3012
shelters for protection of workers, 2303
as a soilless culture medium, 4077
Platanus spp., propagation, 1302, 2446
Platycerium spp., descriptions, 6912
Platycerium spp., propagation, 5199
Platynota rostrana, 3819
Pluchea dioscoridis, 5353
Plum (including prune and gage)—
breeding and selection, 219, 5999
climate—
spring frost injury and protection, 2405, 2450, 5999
temperature requirements for flowering, 6023
winter chilling requirements, 6023
winter injury and hardiness, 261, 2416, 2422, 2423, 2450, 2742, 4636-4638, 6044
composition, fruit, 352, 374, 4310, 4403, 6112
composition, leaf, 332, 2301
diseases—
bacterial, black spot (*Xanthomonas pruni*), 171
bacterial, canker (*Pseudomonas* spp.), 2342, 5964
fungus—
black knot (*Dibotryon morbosum*), 4632
canker (*Cytospora* and *Ceratocystis* spp.), 2742, 4636-4639
pocket disease (*Taphrina communis*), 666
Polystigma rubrum, 2743
rust (*Tranzschelia pruni-spinosae*), 170

Plum—diseases—fungus (*continued*)—
silver leaf (*Stereum purpureum*), 660, 661
virus—
general, 6329
Lambert mottle of cherry, 621
necrotic ringspot, 2711, 5977, 6331
pox (šarka), 4590, 6330
prune dwarf, 5977, 6331
-tested mother trees, 4213
flower—
abnormalities, 357
biology, 356, 4389
bud differentiation and development, 5999
thinning—*see also below*, fruit—375, 6111
flowering, time of, 2364, 6023
fruit—*see also above*, composition, *and below*, harvesting—
drop, spraying to retard, 6112
enzyme activity, 384
growth substances in, 352
ripening, biochemical changes during, 4403
size, factors affecting, 376
thinning, 219, 374
yield variation, 5991
growing in various countries, 217, 4254
growth—
fruit thinning affects, 374
mites affect, 4660
-substance responses, 376, 6112
of water shoots and suckers, 331
harvesting, 396, 397, 4415, 4416, 4639, 6137
herbicide responses, 282
interstocks, 2378, 4297
nutrition—
foliar, 319, 661
manuring and major elements, 170, 2336, 4310, 4318, 4350, 4372, 4659
minor elements, 319, 661
× peach hybrid, 2420
pests—
aphids (various species), 4133
birds, 2823
curculio (*Conotrachelus nenuphar*), 4217, 5970
fruit fly (*Ceratitis capitata*), 731, 2786
general, 4727
mites (various species), 102, 4659-4661
moths (various species), 750, 2801, 2802, 6433, 6438
sawfly (*Hoplocampa* spp.), 2811, 4661, 4707, 6445
scale (*Parthenolecanium corni*), 4709
wasps, 761
physiology—
enzyme activity, 384
irradiation responses, 219
sorbitol biosynthesis, 332
pollination and pollen germination, 355, 356
production and trade, 234
propagation—*see also below*, rootstocks *and* seed—by—
budding and grafting, 2447, 4297, 6025
Plum—propagation by (*continued*)—
cuttings, with nurse root grafts, 4276
cuttings, stem or root, 1302, 2446, 2447, 3203, 6041, 6798, 6801
layering, 2447
pruning and training, 4369, 4371, 4372
research in various countries, 2370, 5969
root—
growth, 4318, 4660
pruning, 4372
suckering, 331
systems, 4350
as a rootstock for almond, 6293
as a rootstock for apricot, 4289, 4291
rootstocks—*see also above*, interstocks—
apricot, 261
Brompton, 2446, 6801
Buck plum, 2448
dwarfing, 2447, 4297
hardiness, 261
myrobalan, 261, 262, 4297, 6042
own-rooted trees compared with, 6042
plum seedlings, 261, 262
Prunus besseyi, 2447
Prunus nigra, 219, 2447
-scion relationships, 219, 2416
in various countries, 2378, 2390, 2391, 2393, 4274
seed treatment and ripening, 2439
soil—
management—
irrigation, 6063
methods compared, 4310
weed control, 281, 4311
pH, disease resistance in relation to, 661
varieties—
disease resistance, 2743
hardy, 2422, 2423
identification, 235
Jamuni, 4273
Morettini, 2389
Opal, 2405
for processing, 222, 234, 2421
in various countries, 213, 221, 234, 2354, 2387, 2388, 2390, 2391, 2393, 2421, 4256, 4272, 5955, 6001, 6023
for wine production, 2421, 2551
Plumbago spp., flower pigments, 5211
Plusia argentifera, 863
Plusia chalcytes (= *P. eriosoma*), 862, 1135, 3184, 4816
Plutella maculipennis, 853, 861-863, 4133, 4814, 4816
Poa—
annua, 3321, 5191
pratensis, 1244, 3321, 6892
spp., herbicide responses, 6895
trivialis, 3321
Podosphaera leucotricha—*see* Apple diseases, fungus, mildew
Poinsettia—
diseases, 1345, 3360, 6925

Poinsettia (*continued*)—
flowers—
cut, life of, 3202
initiation and development, 1343, 1344
nectar secretion, 6924
growth substances, responses, 2245, 3358, 3359, 4122, 5869, 6923
herbicide responses, 6924
mutations and chimaeras, 1341, 3356
pests, 6926
physiology, light and temperature responses, 32, 1343, 1344, 3357, 3358, 6922
propagation, vegetative, 179, 1341, 1342, 3357, 4221
seed germination and seedling growth, 3359
soil management for disease control, 1345
taxonomy, 6921
Poisonous plants, various, 5, 148, 3535
Poland, horticultural research, 2164
Polanisia trachysperma, 1617
Polarity in plants, 38, 6696
Polianthes tuberosa, 3317, 5188
Polistes spp., beneficial wasps, 1444
Pollen—
collection, apparatus for, 2253, 7343
composition, 2254, 2364, 4081
destruction by growth substances, 194, 535
development, factors affecting, 4529, 5177, 6096
diluents, 350
germination and tube growth—
boron affects, 2257, 2659, 5186
climatic factors affecting, 534, 7312
fungicides and insecticides affect, 2503, 2693
growth substances affect, 362, 2255, 7250
physiological aspects, 347, 1419, 1420
pruning affects, 546
radiation affects, 67, 1153, 6969
reviews, 66, 4373
stigmata extracts affect, 2258
in sugar media, 347, 355, 362, 2256, 2502, 2596, 2659, 2683, 4376, 4530, 5537, 5666, 7248, 7250
techniques for studying, 348
varietal differences, 356, 2502, 2659, 4530
various organic compounds affect, 2256, 5186
growth substances in, 535
morphology, 1503, 4846, 6833
storage and longevity, 66, 1481, 2002, 2255, 2372, 2569, 2660, 4237, 4373, 4796, 5537, 5598, 5984, 6730
tissue culture, 4081
treatment with X- and gamma rays, 67, 1153, 5021, 6969
viability and sterility in various plants, 346, 882, 1873, 2354, 2504, 2587, 3336, 5797, 6857, 7248
virus transmission by, 2714, 6316
Pollination and fertilization—
artificial, 350, 355, 356, 1052, 1069, 1112, 1810, 2007, 2501, 2583, 3159, 5217, 7142
Pollination and fertilization (*continued*)—
of frost-damaged flowers, 4382
by insects, bees—*see* Bees
by insects, various, 917, 1031, 1032, 1824, 3267, 3825, 3826, 3935, 4780, 7385
interspecific—*see also* Hybridization—1710
metaxenia following—*see* Xenia
nucellar embryo development in relation to, 1665
of plants—
fruit and plantation crops, evergreen, dicotyledons—*see also* Cacao, Citrus *and* Olive—1810, 2007, 2010, 2163, 2366, 2368, 2371, 3639, 3899, 3935, 5644, 5666, 5797, 7308, 7312, 7313, 7464, 7563
fruit and plantation crops, evergreen, monocotyledons, 1824, 3941
fruit trees, deciduous—*see also* Apple, Cherry *and* Pear—355, 356, 4208, 4374
nut trees, deciduous, 4554, 4556, 4561, 6301, 6306
ornamentals, 1263, 3249, 3267, 3283, 5217
small fruits—*see also* Vine—2348, 2565, 2587, 2596, 4447, 4466, 6192, 6195, 6196
tobacco and other *Nicotiana* spp., 1419, 1420
various, 1478, 1481, 1620, 3612, 7194
vegetables—*see also* Tomato—907, 1031, 1032, 3052, 4780, 4795, 4796, 4829, 4863, 6584, 6730
pollen—
incompatibility affects, 4378, 5180, 7384, 7464
mixtures for, 1710, 3113, 3661, 4377, 6097, 7249
quantity affects, 5217
source affects, 4379, 5644, 7249, 7251
transport by bees affects, 349
repeated, 1710, 2259
stigma maturity affects, 2583
vibrating plants to aid, 3159, 3267, 5971
water sprays to aid, 7308
Polyalthia longifolia, 1546
Polyanthus—*see under* Primula
Polychrosis botrana, 4216
Polydrosus dohrni, 6418
Polyembryony in plants, 1877, 1972-1974, 7465
Polygonum coriarium, as a tannin plant, 1626
Polyphenols—*see also* Phenolic compounds, Tannins, Tea composition, *and separate compounds*—disease resistance in relation to, 4620, 5400
Polyphenols in plants, 1626, 4402
Polyploidy—
aneuploidy in *Rosa* spp., 1277
detection of, 826
methods of inducing—*see* Colchicine
reversal of ploidy, 1264
uses and effects, 1487, 2371, 3336, 5232, 5543
Polyporus igniarius—*see Fomes*
Polysaccharides—*see under* Carbohydrates *and* Sugars
Polyscius fulva, as a shade tree, 5767

Polystigma rubrum, 2743
Pome fruits—*see also separate fruits*—
breeding and selection, 220
harvesting, 2520
pruning, 2494
Pomegranate—
cytology, 5532
propagation by marcotting, 1814
varieties, 1813, 5531
Poncirus trifoliata—
× *Citrus paradisi* hybrid, 7222
as a citrus rootstock—*see* Citrus rootstocks, trifoliate orange
diseases, virus, 1718, 1719
photoperiodic responses, 1687
pollination of citrus by, 1710, 3661
Popillia japonica, 4144, 5911
Poplar—*see under Populus*
Poppy—*see also Papaver*—
oil-seed—
growing in France, 5420
oil accumulation and characteristics, 1604, 5421
physiology, 3618
ripening, 135
opium—
alkaloid—
biosynthesis, 3549
content, factors affecting, 3547, 5383, 7141, 7143, 7153
determination, 3550
breeding and varieties, 3547, 3548, 5383
composition, non-alkaloid, 37, 1540, 4102
diseases, 87
growth substances, responses, 7143
history, 3546
nutrition, 7141
× oriental poppy hybrids, 3548
physiology, light and temperature responses, 7153
physiology, water relations, 37, 4102
pollination *in vitro*, 7142
storage of plants, 3550
tissue and ovule culture, 7142
oriental, composition, alkaloids, 5384
oriental, development and longevity, 3254
Populus spp.—
diseases, 88, 6918
pests, 7203
propagation, 5111
Poria hypolateritia, 7555
Portugal, crops, olives, 7317
Portulaca oleracea, 1542, 5538
Portulaca spp., salt tolerance, 3197
Pot(s)—
plants—*see also* House plants *and individual plants*—
bench arrangements, 2197
economics, 6788
nutrition, 6790
pests, general, 3190
potting, machines for, 4060
Pot(s)—plants (*continued*)—
potting, work studies on, 2196, 5803, 6789, 6807
soil fumigation, 3180
spray injury, 2283
watering, 4196
types—
clay, 162, 1080, 1266, 5803, 5819, 5820
plastic, 162, 1150, 1266, 1294, 2196, 3203, 3865, 4076, 4180, 5819-5821
soil (block), peat, turf, etc., 168, 177, 899, 1079, 1080, 1294, 2195, 2336, 2346, 4735, 4744, 5803, 5819
various—*see also* Nursery stock, growing in containers—2195, 2336, 3146, 5819, 6756
Potassium—
absorption and translocation, 27, 2462, 2677, 2923, 3694, 4067, 6471, 6604, 7239
application, foliar, 569, 1919, 4320, 4546, 6266, 6267, 7014
contents of plants, factors affecting, 567, 796, 900, 930, 1103, 2204, 2468, 2959, 2989, 3399, 3693, 3718, 5185, 5208, 5247, 5686, 5732, 6751, 7240, 7355, 7395, 7489, 7515
deficiency symptoms, 156, 312, 1821, 1840, 1841, 1860, 1944, 1994, 4328, 4340, 5196, 6710, 6880, 7013, 7383
deficiency, virus symptoms affected by, 4598
determination, 2300-2302, 5921, 7268
interrelationships with—
boron, 2472
calcium, 636, 906, 1058, 1388, 1389, 1395, 1919, 3970, 4429, 5965
magnesium, 317, 636, 930, 1388, 1389, 1395, 1782, 2138, 3136, 3696, 7356
manganese, 2105
nitrogen—*see* Nitrogen
phosphorus—*see* Phosphorus
sodium, 27, 796, 1389, 1906, 4598, 6586
sulphur, 7015
leaching from plants, 4340
nutrition of crops—*see also separate crops under* nutrition—plant and soil analysis as a guide to, 317, 498, 571, 4331, 5688, 7395
plant responses—
disease incidence affected by, 310, 2140, 2726, 3169, 3293, 5312, 6765
ozone injury in relation to, 3099
plant metabolism and organic composition affected by, 2209, 2577, 3100, 3101, 3526, 4093, 4901, 5196, 5965
sources—
frit, 1192, 5970
muriate of potash, 5272
various compared, 3526
Potentilla spp.—
breeding, 1294
composition, 2477
growth substances, responses, 1301
propagation by cuttings, 5803
storage of plants, 1294

Pratylenchoides spp., unspecified, 2758
Pratylenchus—*see also* Nematodes—
coffeae, 1932
crenatus, 1041
loosi, 2105, 4019
penetrans, 97, 688, 2903, 2997, 3312, 4215, 4571, 5086, 6871, 6942
pratensis, 5086
spp., unspecified, 610, 687, 690, 3415, 6398
vulnus, 3369
Prays oleellus, 1799, 3759, 3763, 5524, 7327
Pressure testing apparatus for fruits and vegetables—*see under* Apparatus
Pricking out—*see under* Planting
Prickly pear—*see Opuntia*
Primula—
breeding and genetics, 3255, 5150
flower blackening, 4229
as a medicinal plant, 1199
nutrition, 177, 3196, 6791
primulin content, 5150
seed production, 6841
seed storage, 4051
species and varieties, 3256, 3257
Privet—*see under Ligustrum*
Proceedings—*see also* Reports—
annu. Conf. United Planters' Ass. S. India, 5755
annu. Mtg New York St. hort. Soc., 5956
annu. Mtg Western Canad. Soc. Hort., 4230
Citrus Conf., Argentina, 3652
Cocoa Conf., London, 5565
Conf. Floric., Ital. hort. Soc., Turin, 3191
Conf. Fruit Condition, Rutgers, N.J., 378
int. hort. Congr., Nice, 4202
Prodenia litura, 3488, 5087, 7092
Production—*see under* Trade
Proforcipomyia spp., as pollinators, 3825, 7385
Propagation—*see also under plants and methods*—
humidification systems—*see* Cuttings, mist *and* Humidifiers
terms used in, glossary of, 4208
Prophantis smaragdina, 1933, 7446
Prospaltella spp., biological control by, 757, 2816
Prospodium appendiculatum, 3405
Proteins—
biosynthesis and metabolism, 125, 4329, 5843, 6625, 7042, 7043
content—
factors affecting, 3029, 3318, 3754, 4919
of pear fruits, 2508
of seeds, 948, 1148, 4878
of vegetables, 87, 960, 3029, 4877
extraction and determination, 125, 948
hydrolysed, as insect baits—*see under* Fruit flies, control
leaf, flower development in relation to, 3318
Protoparce—
convolvuli, 1539
quinquemaculata, 1444
sexta, 1444
Protoparce (*continued*)—
spp., unspecified, 4228
Protoplasm viscosity, gibberellin affects, 4120
Prune—*see under* Plum
Pruning and training—*see also individual plants*—
ease of cutting, factors affecting, 7326
growth and physiological effects of, 4362, 4365, 4366, 4368
mechanized, 342, 2500
methods—
arching, 338
Kipp, 338
modified central leader, 339
Nagy Sándor, 2497
for prostrate trees, 337, 6086
of ornamental trees and shrubs, 1300, 1301
platforms for, 345, 6087
rejuvenation of trees by, 341
root, 2350, 2364
summer, 4366, 6090
for wide crotch angles, 4358, 4361, 6085
wounds, treatment of, 2730
Prunings, utilization of, 6047, 6285, 6286
Prunus—*see also separate stone fruits under their common names*—
besseyi, 236, 2447
cerasifera, 278, 2450
dasycarpa, 5995
emarginata, 623
fruticosa, 6044
laurocerasus, 5841
mahaleb—*see also* Cherry rootstocks—278, 2440, 4723
nigra, 219, 2447
sachalinensis, 2415
sibirica, 4355
species, various—
composition, leaf, 2477, 4164
diseases, virus, 621, 2712
frost resistance, 261
herbicide injury, 3209
hybrids, 4271
origin and nomenclature, 6012
pests, 687, 5226
processing, 2554
propagation, 1294, 2446, 3204
as rootstocks for fruit trees—*see separate fruits under* rootstocks
as rootstocks for ornamental species, 1294
seed sources, 2425
weed control, 278, 3209
spinosa, 2554
subhirtella, 3203
triloba, 5214
ussuriensis, 236
virginiana, 4672
Psalliota spp.—*see* Mushroom
Psallus ambiguus, 4715
Pseudaletia unipuncta, 2086
Pseudaulacaspis ostreata, 3915
Pseudaulacaspis pentagona, 2814-2816, 3915
Pseudexentera mali, 4672

Pseudococcus—
brevipes, 3923, 5540
citri, 1750, 4216, 6425
comstocki, 2818
cuspidatae, 6794
filamentosus, 4024
spp., unspecified, 103, 1934, 2817
Pseudodoniella spp., on cacao, 3831
Pseudomonas—
angulata, 5310
caryophylli, 3228
cichorii, 1185
desaiana, 7522
flectens, 935
lachrymans, 6569
marginalis, 4229
marginata, 1219
mors-prunorum, 4629, 5968
phaseolicola, 4887, 6593
solanacearum, 1122, 1371, 3167, 3471, 4215, 5079, 5549, 5550, 6767, 7056
spp., unspecified, 186, 2342
syringae, 1726, 6344
tabacum—*see* Tobacco diseases, bacterial, wildfire and blackfire
tolaasi, 995
tomato, 6768
Pseudoperonospora—
cannabina, 7160
cubensis, 898, 2946
humuli—*see* Hop diseases, fungus, downy mildew
Pseudopeziza ribis, 480
Pseudotheraptus wayi, 1890, 2268, 5986
Pseudowintera colorata, 5399
Psila nigricornis, 5131, 5964
Psila rosae—*see also* Carrot pests, insect, fly—4996
Psylla mali, 4724, 6412
Psylla pyri and *P. pyricola*—*see* Pear, pests, sucker
Psylliodes spp., on crucifers, 853, 856
Pterandrus rosa—*see Ceratitis*
Pteris spp., nutrition, 3342
Pterocarya spp., rootstocks, 6806
Puccinellia distans, 1244
Puccinia—
antirrhini, 1202, 5154
apii, 4822
carthami, 7196
kuehnii, 7522, 7524
porri, 4983
Pueraria spp.—
as cover crops, 7110
as a mulch, 3687
nutrition, 1821
Puerto Rico, crops, 3632, 7296
Pullularia pullulans, 6379, 6380
Pulse crops—*see* Legumes
Pulvinaria vitis, 6451
Pumice stone as a medium for soilless culture, 3276, 3286
Pumpkin—*see also* Cucurbits—
growing in Australia, 4844
physiology, 42, 2236
as a rootstock for cucumber, 881
as a rootstock for melon, 4838, 4839
varieties, 2352
Punch-cards, uses in horticulture, 4186, 5172, 7265
Punica granatum—*see* Pomegranate
Pyracantha spp.—
herbicide responses, 3214
nutrition, 6945
propagation, 164, 5113
Pyrausta spp., on hemp, 3574
Pyrenochaeta terrestris, 3062, 6685
Pyrethrins—*see below*, Pyrethrum, flowers
Pyrethrum—
breeding, 2369
composition, leaf, 1816
flowers, drying, 1602, 1603, 3614
flowers, pyrethrins, 205, 2369, 3612
growing in Africa, 1599, 1600, 7177, 7178
herbicide responses, 7180
nutrition, 7179
pests, 3613, 4231
pollination, 3612
research in East Africa, 2365, 4239
soil management, irrigation, 7179
soil management, weed control, 2268, 7180
species in the U.S.S.R., 1601
Pyrus—*see also* Pear—
calleryana, 2697, 2699, 4286
serotina, 2697, 2699
simonii, 5876
ussuriensis, 2407, 2697, 2699
Pyruvate carboxylation, 5857
Pythium—*see also* Damping-off—
aphanidermatum, 909, 910, 1188, 5959, 6575
complectens, 1495
spp., unspecified, 94, 608, 610, 805, 1138, 1376, 1446, 5345, 6836, 6837, 6843
spinosum, 3237, 3270
splendens, 1495
ultimum, 608, 1345, 3320, 3360, 4920, 4921

Quadraspidiotus perniciosus—*see* San José scale
Quarantine, plant, 1849, 1856
Quebec, Minist. Agric., A.R., 5974
Quebec pomol. Fruit Growing Soc., A.R., 4224
Queensland—*see also under* Australia—Bureau Sugar Exp. Stats, A.R., 3941
Queensland Dep. Agric. Stock, A.R., 2370
Quercitrin in plants, 6308
Quercus—*see also* Oak—*borealis*, 5220
Quince—
burr knots, root production from, 333
diseases, 2730, 4582
pests, 2802, 2803, 6435
as a rootstock for pear—*see* Pear root stocks
spray injury, 4723
varieties, 221
Quinine—*see under* Cinchona

Quinones, growth substance effects reversed by, 5277
Quinones, natural, a review on, 4104

Rabbit—*see under* Rodents
Radiation—
  beta, 121, 5302
  fast neutron, 1610
  gamma—*see* Gamma
  ionizing, general, 68, 219, 1363, 2210, 4135, 5645
  thermal neutron, 1068, 5301
Radinaphelenchus cocophilus, 3850
Radioactive—
  alkaloids, 5374, 7039
  amino acids, 4880
  fungicides, 6466
  growth substances—*see* Growth-substances
  herbicides—*see* Herbicides
  insecticides, 4726
  isotopes, general—*see also* Radiation—
    plants contaminated by, 2874
    seed treatment with—*see* Seed treatment by irradiation
    uptake by plants, 80, 2678, 3451, 4074
    uses in agricultural research, 288, 348, 1917, 2211, 4135, 5928
  nutrients—*see also* Calcium, Carbon, Phosphorus *and* Sulphur—3138, 4329
  sugars—*see* Sugars
Radiographs—*see under* X-ray
Radish—
  breeding and selection, 5002
  composition, 126, 1044, 3095, 6548
  diseases, 1049, 2965, 5001-5003
  flowering, 6712
  growing under glass or plastic, 2312, 4737
  growth substance responses, 5868, 6548, 6712
  hybrids, vegetative, 1046, 1047
  nutrition, 976, 3095, 3096, 4747, 4987, 4999, 5000, 6491, 6494, 6548, 6710
  pests, 2909, 4760, 6544
  physiology, 1048, 3094, 3096, 5848
  root development, 6712
  seed—
    germination, 1044
    nutrient reserves in, 5000
    production, 2841, 4986, 5000
    quality, 2841
    treatment, 1021, 4053, 5816
  soil management, rotations, 5001
  soil management, weed control, 802
  sprays and other chemicals, responses, 1044, 3180
  tetraploid, 3094
  varieties, 2364, 5002
Radopholus—see also Nematodes—*similis*, 1641, 1731-1736, 1849, 3717-3719, 3815, 3816, 5555, 7262, 7266, 7361, 7370
Rain—*see under* Climate
Rambutan (*Nephelium lappaceum*), 1819, 2374
Ramichloridium musae, 3808
Ramie—
  fibre characteristics, 205
  growing in India, 5405
  pests, 4145
Ramulosin, seed germination inhibited by, 4052
Ranunculus spp., as weeds and their control, 497
Raspberry—*see also Rubus*—
  × blackberry hybrid, 2583
  breeding, selection and genetics, 219, 491, 2605, 4465, 4486, 4487, 6202
  cane morphology, 6202
  climate, frost damage and resistance, 491, 494, 2606, 2607, 5970, 6044
  composition—
    fruit, 219, 471, 2610, 6177
    leaf, 471, 498, 500, 4345
    plant, 500, 6203
  diseases, fungus, 491, 495, 2342, 2609, 6186, 6202
  diseases, virus, 626, 627, 2355, 2719, 4488, 4489, 4592, 5975, 6332
  flower bud initiation, 493
  fruit—*see also above*, composition, *and below*, processing—
    flavour, 219
    fumigation, 2609
    storage and transport, 4467, 6186
  fruiting, autumn, 493
  growing in France, 2604
  herbicide responses, 174, 282, 285, 497
  hybrid vigour, 4487
  nutrition, 498, 499, 2339, 2358, 6203
  pests, 2342, 2768, 2779, 4488, 4489, 5964, 6423
  physiology, carbohydrate metabolism, 4493
  plant parasites, dodder (*Cuscuta lupuliformis*), 2608
  planting, spacing, 495
  pollination, 499, 4466
  processing, 2610, 6177
  propagation, 4274
  pruning and trellising, 495, 6203
  research in various countries, 174, 2350, 2354, 2359
  seed, virus transmission by, 627
  soil amendments, 303
  soil management, weed control, 76, 174, 280, 285, 496, 497, 5117, 5971, 6185, 6204
  varieties—
    Boyne, 4492
    disease resistance, 491, 6202
    frost resistance, 491, 2606
    identification, 6201
    pest resistance, 4488, 4489
    for processing, 222, 2610, 4490, 6177
    in various countries, 221, 435, 492, 2604, 2606, 4484, 4490, 4491, 5969
    for wine production, 2551
Rat—*see under* Rodents
Rauwolfia spp., medicinal plants, 195, 1543, 1544, 3519, 3551, 3552, 5359, 5385, 7144
Red-currant—*see also Ribes*—
  apomixis in, 2600

Red-currant (*continued*)—
flower bud differentiation and development, 483, 2596, 4480
fruit—
composition, 2599, 4477
quality, 68
set and development, 2596, 4480, 6191
growing in various countries, 489, 2599, 4477
growth substance responses, 2600, 6191
herbicide responses, 282
nutrition, 4480, 4481
pests, 2768, 2778, 6422
pollination, 2596, 4466
propagation, vegetative, 1294, 2446, 4274
pruning and training, 2348, 4480
soil management, mulching, 178
soil management, weed control, 280, 486, 5117, 6185
varieties, 221, 222, 435, 489, 2354, 2551, 2599, 4494, 5969
Rejuvenation of woody plants, 341
Replanting—*see also* Soil sickness—
deciduous fruit and nut trees—*see also*, Apple, soil sickness—4571, 4573
evergreen fruit and plantation trees, 190, 193, 1642, 1675, 2369
vegetables, 4751
Report(s)—*see also* Annual Reports, Proceedings *and* Yearbooks—
Australia, C.S.I.R.O., Div. Food Pres., 2340
biennial—
Harrow Res. Stat., Ont., 4215
Hawaii agric. Exp. Stat., 193
Illinois agric. Exp. Stat., 5965
Ontario hort. Exp. Stat., Prod. Lab., 2351
Vancouver Res. Stat., B.C., 2355
Virginia agric. Exp. Stat., 4228
Bundesanst. PflSchutz, Vienna, 2266
Cacao Res., reg. Res. Centre Brit. Carib. (I.C.T.A.), 5566
Coconut Ind. Bd, Jamaica, Res. Dep., 5622
Dublin agric. Inst., 2336-2338
Inst. nac. Invest. agron., Madrid, 4216
Levington Res. Stat., 159
Pesticide Res. Inst., London, Ont., 86
Rosemaund exp. Husbandry Fm, N.A.A.S., 176
Saskatoon Res. Stat., Saskatchewan, 4225
Washington St. Univ., 2269, 2279, 2357-2359
Working Party on Frost Protection, Bonn, 5805
Resins—*see also under* Hop composition *and* cone—
chemistry, 1424, 7184
ion exchange, in plant nutrition, 4072, 5123
sources and production, 205, 1582, 5361, 7184
Respiration—*see also individual crops under* physiology *and* storage—
flower, 2235
fruit—*see also* Apple—2340, 2370, 2508, 2933, 2934, 3650, 3651, 4842, 5441, 5502, 6725
Respiration (*continued*)—
plant, 41, 56, 78, 884, 1111, 2234, 2242, 2449, 2763, 3139, 3151, 4036, 4182, 4355, 4394, 4763, 5832, 5874, 6633
root, tuber and bulb, 41, 892, 2233, 3064, 4966, 5840
seed and seedling, 11, 892, 2631, 4588, 4966
tissues, various, 43, 2236, 2237
Reviews, book—*see also* Directory—
Allan, H. H., Flora of New Zealand. Vol. I., 145
Backeberg, C., Die Cactaceae. Band V. Cereoideae. Band VI. Nachträge und Index, 1255, 6903
Backeberg, C., Wunderwelt Kakteen, 1256
Baldit, G. L., Turtle E. E., and others, Fungicides in Agriculture and Horticulture, 2272
Beech, F. W., and Pollard, A., Wines and Juices, 146
Benson, L., Plant Taxonomy, Methods and Principles, 5950
Boatfield, J. M., Soft Fruit, 6183
Bordeianu, T., and others, Pomicultura Speciala, 5988
Boulay, H., Arboriculture et Production fruitière, 209
Bradford, M., Crop Spraying Simplified, 75
British Mycological Society, List of Common British Plant Diseases, 5895
Budagovskij, V. I., Dwarfing Rootstocks for Apples, [Russian], 240
Burle, L., Le Cacaoyer. Tome Premier, 3821
Carson, S. M., and Colton, R. W., The Teaching of Rural Studies, 4198
Clair, C., Of Herbs and Spices, 3507
Dale, I. R., and Greenway, P. J., Kenya Trees and Shrubs, 4199
Eames, A. J., Morphology of the Angiosperms, 147
Esau, K., Plants, Viruses and Insects, 4201
FAO, Agricultural and Horticultural Seeds, 2183
Finney, D. J., An Introduction to Statistical Science in Agriculture, 4158
Gould, R. F. (Editor), Gibberellins, 60
Grassland Research Institute, Research Techniques in Use at the Grassland Research Institute, Hurley, 118
Gray, A., Miniature Daffodils, 1232
Guyot, L., and Gibassier, P., Histoire des Fleurs, 3189
Haarer, A. E., Modern Coffee Production, 7408
Hanson, S. W. F. (Editor), The Accelerated Freeze-drying (AFD) Method of Food Preservation, 2325
Haworth-Booth, M., The Flowering Shrub Garden Today, 1293
Hellyer, A. G. L., and Lloyd, C., Amateur Gardening Photo Album of Garden Plants, 3188

Reviews, book (*continued*)—
Huffnagel, H. P., Agriculture in Ethiopia, 2326
Humphrey, H. B., Makers of North American Botany, 2327
Irvine, F. R., Woody Plants of Ghana with Special Reference to their Uses, 148
Karpov, G. K. (Editor), Breeding Top and Small Fruits for Regular Cropping and Frost Resistance, [Russian], 5999
Klein, R. M. (Chairman, Editorial Committee), Plant Growth Regulation, 47
Kozlowski, T. T. (Editor), Tree Growth, 5951
Lavabre, E. M., Protection des Culture de Caféiers, Cacaoyers et autres Plantes pérennes tropicales, 5539
Leach, D. G., Rhododendrons of the World, 6927
Lock, G. W., Sisal, 7161
Mao, Y. T., World List of Plant Breeders, 2329
Miehe, H., and Mevius, W., Taschenbuch der Botanik. Erster Teil: Morphologie, Anatomie, Fortpflanzung, Entwicklungsgeschichte, Physiologie, 2330
Morettini, A., and others, Il Miglioramento Genetico degli Ortaggi, 4739
Mosse, B., Graft-incompatibility in Fruit Trees, 4203
Niethammer, A., and Tietz, N., Samen and Früchte des Handels und der Industrie, 4204
Northen, R. T., Home Orchid Growing, 5200
Palmer, E., and Pitman, N., Trees of South Africa, 4205
Perring, F. H., and Walters, S. M. (Editors), Atlas of the British Flora, 5952
Priestley, C. A., Carbohydrate Resources within the Perennial Plant, 2331
Rodenburg, C. M., and others, Varieties of Lettuce, 3007
Rubin, S. S., The Manuring of Top and Small Fruits, [Russian], 6065
Ruhland, W., and others (Editors), Handbuch der Pflanzenphysiologie. Band XIV and XVI, 2218
Russell, E. W., Soil Conditions and Plant Growth (9th edition), 4206
Searle, S. A., and Machin, B. J., Chrysanthemums the Year Round, 5121
Seidenfaden, G., and Smitinand, T., The Orchids of Thailand: a Preliminary List, Part II, 2, 3346
Stefan, N. (Editor), Valorificarea terenurilor în pantă prin cultura viţei de vie, 4538
Stiles, W. C., and Childers, N. F. (Compilers), Factors affecting Fruit Condition, 378
Sturrock, D., Fruits for Southern Florida, 1634
Sveriges Pomologiska Förening, SPF:s Växtatlas, 4207
Synge, P. M., Collins Guide to Bulbs, 5166
Reviews, book (*continued*)—
Tritton, S. M., Wine Making from Fruit Pulps and Concentrates, 6142
Wardlaw, C. W., Banana Diseases, including Plantains and Abaca, 5542
West, T. F., and Hardy, J. E., Chemical Control of Insects, 2277
Whitaker, T. W., and Davies, G. N., Cucurbits, 6552
Rhabditis spp., on mushrooms, 6671
Rhabdophaga heterobia, 87
Rhagoletis—
completa, 6421
pomonella, 86, 729, 730, 4217, 4683-4685
spp., on cherry—*see* Cherry pests, fruit flies
Rhamnus spp., composition, 5386
Rhaphidopalpa—*see Aulacophora*
Rheedia aristata, 2160
Rhesala moestalis, 2129
Rhinastus latisternus, 5340
Rhinostomus afzelii, 1890
Rhipsalidopsis × *graeseri*, 1259
Rhizobium spp., for legumes, 2992, 6615
Rhizoctonia—*see also* Damping-off
bataticola—*see Macrophomina phaseoli*
solani—*see Corticium*
spp., unspecified, 94, 608, 805, 3565, 4641, 4820, 5739, 5902
violacea, 1041
Rhizoglyphus echinopus, 6689
Rhizomyrma spp., harmful ants, 1935
Rhizoplane—*see* Root surface
Rhizopus spp., unspecified, 4436, 4438, 4651
Rhizopus stolonifer (= *R. nigricans*), 2529, 4437, 6170, 6186, 6780
Rhizosphere—*see* Root zone
Rhodesia, Northern, Dep. Agric., A.R., 5982
Rhodesia and Nyasaland, fed. Minist. Agric., A.R., 2363
Rhodesia, Southern, fruit pests, 711
Rhododendron—*see also* Azalea—
a book on, 6927
breeding, 1294, 2351
climate, winter hardiness and injury, 3361
diseases, 1294, 6928
flower pigments, 5211
forcing, 1349
leaf composition, 5210, 6931
nutrition, 1307, 2359
physiology, photoperiodic responses, 1305
propagation—
by budding or grafting, 1294, 1303
by cuttings, 1294, 1303, 1305, 3364, 5203
general, 1346, 6928
research in Holland, 6798
soil pH responses, 6928
species, variability within, 3363
Year Book, Rhododendron-Gesellschaft, 3362, 6928
Year Book, roy. hort. Soc., 3361
Rhoeo discolor, 2170
Rhoeo spp., nutrition, 20

Rhopalosiphum—
maidis, 5343
oxyacanthae, 4679
prunifoliae, 108
pseudobrassicae, 4807
Rhubarb—
composition, 172
diseases, 3074, 4229
forcing, 6694
growing in the Congo, 784
growing in organic soil, 3073
growth substances, endogenous, 52
physiology, temperature responses, 6694
planting, 179
soil fumigation, 3074
varieties, 179, 3073
weed control, 2855
Rhus spp.—
composition, 4956
as an intercrop for *Bergenia* spp., 3624
ornamental, 6946
tannin from, 7200
Rhyacia saucia ,3184
Rhynchophorus palmarum, 3850
Ribautiana tenerrima, 6423
Ribes spp.—*see also* Black-currant, Gooseberry, Red-currant *and* White-currant—
apomixis in, 2600
cytology, 2354
dormancy, 5220
propagation by cuttings, 2446, 3204, 5110
as virus indicators, 165
Riboflavin—*see under* Vitamin B
Richardia—see Zantedeschia
Ricinus communis—see Castor
Ring culture for glasshouse crops, 3148
Ringing, bark rings to supplement, 5582
Ringing fruit plants, 1713, 1714, 2656, 4226, 6100, 6247
Roads, plants and trees for verges, 1297-1299, 5223
Roads, salt applications, trees affected by, 5224
Robinia pseud-acacia, 5429, 5814
Rodent(s)—
control and prevention—*see also* Rodenticides—
general, 4569, 7281, 7527
by repellents, 160, 4712
by tree bands, 2826, 2829
gophers, 1755, 7281
hares, 160
Holochilus sciureus, 7527
mice, 2828, 4148, 4228, 4435, 4713
rabbits, 2829, 4713
rats, 2094
voles, 1294, 4148
Rodenticides—
endrin, 2828, 4148
equipment for applying, 1755
general, 88
thallium sulphate, 2094
toxaphene, 4148
Romania, crops, fruits and nuts, 5988
Root(s)—
absorption, factors affecting, 2205, 3132, 5854, 5863
adventitious, 1666, 2426, 4847
aerial, 333, 1879, 1880, 3779
anatomy, 6032
cation exchange capacity, 2205, 4219, 6510
cell division, inhibition of, 5833
characteristics, identification of rootstocks by, 4514
crops—*see also separate crops*—diseases, virus, 2859
crops, seed production, 2183
cuttings—*see* Cuttings, types
electric impulses or oscillations generated by, 5861-5863
exudates—*see below*, secretions
growth—
factors affecting—*see also* Apple—
growth substances—*see under* Cuttings *and* Growth-substances
nutrition, 20-22, 2208, 4008, 4508, 6265, 6710
various other factors, 164, 1084, 1500, 1686, 1692, 2208, 2229, 3148, 3149, 3260, 4008, 4099, 4660, 5739
and geotropism, 1500
recording or measurement of, 2557, 4169
injury by quartz particles, 2003
nodule—
bacteria, activity in leguminous plants, 6588
bacteria, inoculation of roots, 5975
composition, 4901
formation in leguminous plants, 65, 925, 2991, 2992
physiology and metabolism, 41, 42, 4083, 4092, 4117
pressure studies, 1881, 3132
pruning, 2350, 2364, 4372, 4533, 4534
residues, toxins from, 6308
secretions and exudates, 289, 1012, 1640, 2239, 2251, 2964, 3175, 3514, 4641, 5084, 5893, 7366
surface (rhizoplane), fungi on, 3131, 4899
systems—
disease transmission between adjacent, 5079
of pineapple, 7476
radioactive tracers for studying, 288, 1917
sampling studies, 2294, 4169
of sugar cane, 2055
of tobacco, 7023
of trees and shrubs, 288, 1274, 1692, 1917, 1965, 2483-2485, 3778, 3877, 3878, 4009, 4231, 4349, 4350, 5521, 6265, 7433, 7434, 7548
of vegetable crops, 891, 905, 3148
temperature, plant responses—*see also* Soil temperature—1103
tissue culture—*see under* Tissue culture
washing soil from, apparatus for, 4184
weight, measurement of, 118

Root(s) (*continued*)—
zone, microflora, 3175, 5085
Rootstock(s)—*see also* Interstocks—
effects on scions—
alkaloid content, 1412, 5291
anatomical, 242
cold resistance, 2416, 4290, 4291, 6937
disease resistance, 6298
flower sex expression, 881
fruit characters and composition—*see also* Citrus, fruit quality—246, 2433, 4397
height of grafting in relation to, 4290, 4297
juvenile phase of seedlings, 245
nutrient uptake and status—*see also under* Citrus, composition, leaf—567, 3140, 3141, 3637, 6033
vigour, 2428, 2429, 6937, 7221
identification, 4514, 5976
own roots compared with, 6032, 6042, 6155, 6232, 6239
for plants, annuals or herbaceous—*see also* Tomato *under* rootstocks—881, 2929, 2930, 4838, 4839, 7036
for plants, trees and shrubs—*see also* Apple, Apricot, Avocado, Cherry, Citrus, Peach, Pear, Plum, Rose *and* Vine—260, 599, 1294, 1338, 1515, 2160, 2351, 2685, 2686, 2690, 3901, 6293, 6806
-scion interrelationships—
biochemical aspects, 4397, 7036
comparative trials and general studies, 1278, 2441, 2443, 2447, 3652, 3666, 3667, 4280, 4281, 4283, 4285, 4346, 5693, 6032, 6231, 6937
incompatibility, 219, 247, 252, 1915, 2441, 3652, 3666, 4203, 4580, 4838, 6030, 7222, 7223
in inter-family combinations, 5113
in inter-generic combinations—*see also* Apple, Citrus *and* Pear—4838, 4839, 5960
pest resistance, 2637
physiological aspects, 241, 5403
source of scion affects, 2436
virus diseases of citrus—*see under* Citrus diseases, virus
Rosa
alpina, 6944
blanda, 6944
borboniana, 6935
canina, 3381, 5214, 6937
damascena, 5216, 5217, 7152
eglanteria, 6937
fortuneana, 6942
gallica, 5217
glauca, 3383
multiflora, 5214, 5220, 6936, 6937
rugosa, 1282, 3383
spp.—
cytology, 1277
hybridization, 5213
pollen germination, 2255
Rosa—spp. (*continued*)—
taxonomy, 163
Rosaceae, composition and taxonomy, 2477
Rose—
Annual, nat. Rose Soc. G.B., 5212
breeding and selection, 1294, 6944
climate, winter hardiness and injury, 1280, 3375, 6937
composition—
flower, 1292, 2254, 5216
fruit, 6944
shoot and leaf, 1281
diseases—
fungus—
black spot (*Diplocarpon rosae*), 1283, 1284, 1294, 3374-3376, 5212, 5218, 5977, 6941
powdery mildew (*Sphaerotheca pannosa*), 87, 648, 1286-1289, 1294, 3377, 4857, 5218, 6798, 6941
rust (*Phragmidium subcorticium*), 3374, 3378, 5971
various, 90, 1285
virus, 6940
economics and labour requirements, 3220, 5803, 6079
flower(s)—*see also above*, composition—
colour, factors affecting, 5965
cut—
life of, factors affecting, 3379, 3380, 5212, 6797, 6943
neck droop, factors affecting, 1291
packing and storage, 1160, 3379, 3380
cutting, labour requirements, 5803
stem strength, factors affecting, 1281
flowering, factors affecting, 1278
fruit—*see also above*, composition—set, 5217
growing for hip production, 6944
growing in South Africa, 7152
growth—
dormancy, 1282
-substances, endogenous, 1282
-substances, responses, 1282, 5214
herbicide responses, 3209
hip—*see above*, fruit *and* growing
nutrition—
foliar, 319
major elements, 1281
minor elements, 319, 1281, 2346, 3190, 3372, 5107
soil salinity, 3371
oil, 1292, 5216, 5219, 7152
packing—*see also above*, flowers, cut—plants, 5215
pests—
insects, 1312, 3374
millipedes, 1290
mites, 1283, 1284, 1312, 2283, 3369, 3375, 5955
nematodes, 98, 687, 688, 3369, 3384, 6942
physiology, 1281, 1282, 1291
planting, 6079

Rose (*continued*)—
pollen—*see above*, composition, flower
pollination, 5217
propagation, 1294, 6934-6936
pruning and training, 3369, 5212, 6079
research in Holland, 6798
rootstocks, 1278, 1294, 2356, 3190, 5212, 5958, 6937
seed—
germination, 1294
numbers, 5217
treatment, 6933
soil—
composts, 6939
management, mulching, 5114, 6942
management, weed control, 3209, 3210, 3212, 3373, 5117, 5212
requirements, 3370
spray injuries and responses, 103, 2283, 5218
storage—*see also above*, flowers, cut—of plants, 1279, 6938
varieties, 1280, 1288, 1289, 3190, 3378
Rosellinia arcuata, 5783
Rosemaund exp. Husbandry Fm, N.A.A.S., work at, 176
Rosewarne exp. Hort. Stat., N.A.A.S., A.R. and work at, 177, 3308
Rotations—*see also individual crops under* soil management—
crop responses to, 1675, 3429, 4981
pest and disease control in relation to, 1012, 1442, 2963, 4730, 4760, 5001
role of plant residues in, 4751
Rotenone, sources, 7181
Rothamsted exp. Stat., A.R., 5975
Rotylenchus spp.—*see also* Nematodes—unspecified, 687
Ruanda-Urundi, crops, 1901
Rubber—
plants—*see also* Guayule, Hevea *and species of Artocarpus, Asclepias, Euonymus and Vinca*—a review on, 7182
Res. Inst. Ceylon, A.R., 2007
Res. Inst. Malaya, A.R., 3924
Rubidium, radioactive, 7156
Rubus—*see also under* Small fruits *and individual fruits*—
arcticus, 502
spp.—
apoximis in, 501
breeding and genetics, 2611
cytology, 2354
pests, 6423
research in Great Britain, 2354
as virus indicator plants, 6332
Rudbeckia, physiology, 4121, 5127, 5852
Ruellia squarrosa, 6800
Rumbeke-Beitem exp. Gdn, A.R., 2378
Russia—*see* U.S.S.R.
Ruta graveolens, 1545
Rutabaga—*see* Swede
Rutin in plants, 1513, 4355, 5239, 7046
Saanichton exp. Fm, B.C., Progr. Rep., 178
Saccharin determination in plants, 127
Saccharin sprays for sweetening fresh fruit, 383
Saccharum spontaneum, 2041, 2069
Safflower—
climate, temperature responses, 7153
composition, 3620
diseases, fungus—
root rot (*Phytophthora* spp.), 7196
rust (*Puccinia carthami*), 7196
various, 1621, 1622
growing in the U.S.A., 3619
pests, 7197
pollination, 1620
seed—
production, 1620
sowing dates, 3620, 4235
sowing rates and row spacing, 1619
treatment, 1622
varieties, 1618, 1621, 2370, 4235, 5959, 7196
Saffron—*see under* Crocus
Sage—*see under Salvia*
Saharanpur hort. Res. Inst., Rep. and A.R., 2371, 2372
Sahlbergella singularis, 5540, 5607
St. John's wort, composition, 7120
St. Vincent Dep. Agric., A.R., 201, 2373, 5983
Saint-Jean Lab. Rech., Quebec, Rep., 4217
Saintpaulia—
diseases, 5902
mutations, X-rays induce, 6842
pollen treatment, 67
propagation, packing of cuttings, 6800
Saissetia oleae, 5524, 7327
Salad crops—*see also separate crops and* Vegetables—cultivation in the U.K., 4929
Salicornia candicans, 2302
Salicylic acid in plants, 4355
Salinity—*see* Irrigation, Salt *and* Soil salinity
Salix spp., ornamental, 1352
Salix spp., physiology, 42
Salsola kali, 5387
Salt(s)—*see also* Chloride, Sodium *and* Soil salinity—
leaf cuticle penetration by, 4353
tolerance and injury of plants, 796, 1244, 2204, 3095, 3197, 3198, 3367, 4749, 5224, 5960, 5970, 6271, 6272, 7230
winds, plants damaged by, 1311, 5249
Salvia spp.—
as essential oil plants, 1566-1568, 3567, 7152
flower pigments, 5151
growth substances, responses, 1156, 2245
nutrition, 2849
physiology, 1156, 1568, 4098, 4105
seed germination, 1567
soil fumigation, 3180
weed control, 6808, 6809
Samanea saman, 5407, 7163
Sambucus—*see* Elder
Sampling—*see* Statistical

San José scale control, 755-757, 2812, 2813, 6407, 6447-6449
Sandoricum koetjape, 1819, 7569
Sanninoidea exitiosa—*see* Peach pests, tree borer
Sansevieria, propagation, 6802
Santalum spp.—
composition, 1565, 3568, 5400
diseases, 5400, 7157
nutrition, 7157
Santonin from *Artemisia* spp., 5367, 7123
Sapodilla—
diseases, 7564
flowering and pollination, 7563
fruit composition, 1819
growing in India, 2155
Sapogenins, steroidal, plant sources of, 1502, 1527, 1528, 5360, 5370, 5378
Saponaria officinalis, 5388
Saponins in plants, 1625, 3538, 3544, 5370, 5388, 7138
Saponosides in plants, 3627
Sappaphis devecta, 2772
Sappaphis plantaginea, 714, 718
Saraca indica, 1546
Sarawak Dep. Agric., A.R., 2374
Saskatoon Res. Stat., Saskatchewan, Res. Rep., 4225
Saussurea lappa, 3569, 5358
Savory (*Satureia* spp.), fluorine content, 4071
Sawdust—*see also* Mulching materials *and under* Cuttings, rooting media—
bonded, for pots, 5819
as a medium for forcing plants, 4944
as a medium for transplanted rubber stumps, 3925
as a packing material for fruit, 584
in potting composts, 6822
as a soil amendment, 1306
Saxifraga spp., frost resistance, 2170
Scale insects—*see also individual species*—general, and their control, 4708, 6795
Scaphoideus littoralis, 4601
Schefflera spp.—
growth substances, responses, 1155
nutrition, 5830
pests, 1312
Schinopsis balansae, 7121
Schizophyllum commune, 4628
Scilla spp., bulb production, 1207
Scilla spp., ornamental, 3300
Scirpophaga nivella, 3993, 3994
Scirpus fluviatilis, 2072
Scirtothrips signipennis, 1851, 3820
Sclerocarya sp., seed composition, 5798
Sclerotinia—*see also Monilia*—
fructicola, 155, 2275, 2503, 4424, 4437, 4633, 6170, 6171
fructigena, 6348
gladioli, 3293, 3294, 3311, 5164
homoeocarpa, 3330
laxa, 4629
mali, 310, 641, 6349
Sclerotinia (*continued*)—
minor, 3026
sclerotiorum, 979, 980, 3019
spp., unspecified, 432, 433, 664, 3891, 4651
vaccinii-corymbosi, 672
Sclerotium—*see also* Damping-off—*cepivorum*, 172, 1012
Sclerotium rolfsii, 805, 1130, 1446, 2949
Scolypopa australis, 1804
Scopulariopsis fimicola, 995
Scorzonera—
packing, 68
seed germination, 2843
weed control, 6473
Scotland, crops, 6193
Scotland, diseases of crops in, 85
Scottish hort. Res. Inst., A.R., 2354
Scottish Plant Breed. Stat., A.R., 775
Scutigerella immaculata, 777
Sea-buckthorn—*see Hippophae rhamnoides*
Seaweed application, foliar, 28
Seaweed as a manure and soil conditioner, 954, 2849
Sechium edule, 6561
Securidaca longipedunculata, 3519
Sedum spp., weed control, 6809
Seed(s)—*see also individual plants*—
-beds—*see also under separate crops*—covers for, 4214
-beds, weed control in—*see* Weed control in specific areas
books on, 2183, 2184
-borne diseases and disorders—*see also* Virus transmission—6478, 6540, 6713, 6771, 7144
coats, anatomy, 4958
coats, permeability to gases, 10
colour, pollen parent affects, 5644
composition—
carbohydrates, 2989
enzymes, 3002, 3011
fats, 1487
growth substances—*see also below*, germination inhibitors—14, 2563, 4204
gums and mucilages, 7162, 7163
mineral, 2989, 5000
organic acids, 1410, 2186, 2187, 4849, 4879, 4902, 5202, 5517, 5798
polyploidy affects, 1487
proteins, 5798, 6625
sapogenins, 1502
toxins, 5817
various compounds, 7136, 7137, 7310
vitamins, 2186, 4204
development (including embryo and endosperm), 351, 1665, 1972-1974, 3880, 6196, 6584, 6624
dormancy, after-ripening and dormancy breaking—*see also below*, germination—590, 786, 1197, 2249, 2439, 3420, 3422, 4204, 4278, 4932, 6024, 6076, 6077, 6741
drills, 4802
drying, 5675

Seed(s) (*continued*)—
embryo culture, 31, 590, 3083, 7393
endocarp, lignification, 4395
extraction and washing, 2425, 2918, 6024, 7568
germination—
biochemical processes during, 14, 2186, 4211, 4879, 4934, 5858, 6625, 6641, 7189, 7254
growth substance application to fruits affects, 3359
herbicides affect, 3057, 4127, 5889
inhibitors, 14, 971, 2439, 3523, 4052, 4751, 5817, 7134
insecticides affect, 845, 846, 1044, 2971
light affects, 1373, 2646, 3423, 4934
media, 777, 1200, 1327, 3162, 4054, 4098
in plastic bags, 2681
pollination and parental effects, 1032, 2394, 2616, 3267
a review, 6024
seed—
(or fruit) maturity affects, 3753, 4292, 6677
moisture content affects, 791, 5676
size or weight in relation to, 6535, 7144
soil (or other medium) moisture affects, 1373, 2345, 4865
temperature affects, 790, 830, 1373, 1998, 2646, 3162, 3397, 3406, 4865
tests—*see below*, testing
various factors affecting, 786, 791, 883, 945, 1024, 1294, 2350, 2440, 2445, 2545, 2631, 2843, 2918, 3323, 3523, 3780, 3781, 4098, 4296, 4447, 4989, 5675, 5676, 5796, 6535
identification, 6555, 6653
injury, mechanical, 945, 946
number per fruit, factors affecting, 1711, 5534
oil—*see* Oil, seed
physiology, enzyme activity, 23
production—*see also* Carrot, Lettuce, Onion, *and* Tobacco—
beet and spinach, 1023, 1024, 4989
celeriac, 4822
crucifers, 794, 831, 4775, 5000, 6530
eggplant, 4964, 5017
flower crops, 3283, 4964, 5170
fruit tree rootstocks, 2425
legumes, 4905, 4964, 5973
reviews on, 2183-2185
various crops, 1573, 1608, 1620, 2116, 2117, 3913, 5812
vegetables, general, 785, 2841, 4733, 4739, 4986
quality—*see also below*, testing—1023, 2183, 2841
secretions, 2964
size or weight, factors affecting, 1711, 2118, 6863
sowing—*see also above*, drills—depth, 2843, 6535
sowing, precision, in paper ribbons, 3012
Seed(s) (*continued*)—
storage and longevity, 13, 787, 788, 1372, 2188, 3051, 3124, 3523, 4051, 4204, 4274, 4739, 5263, 5445, 5675, 5796, 5968, 6024, 6549, 6629, 6681, 6987
testing methods, 1664, 4050, 4739, 5446, 5814, 5815, 6654
testing in various countries, 9, 2184, 5812, 5813
threshing and grading, machines for, 4739
treatment—*see also below*, vernalization—
by animal digestion, 6741
with antibiotics, 2858, 2904, 4854
with bacteria, 5975
with calcium hypochlorite, 1843
with enzymes, 4932
with fumigants, 4895, 5901
with fungicides and bactericides, 87, 88, 789, 803, 805, 952, 965, 1010, 1372, 1622, 2189, 2363, 2365, 2842, 2904, 2962, 3125, 3480, 4743, 4805, 4854, 4889, 5445, 5964, 6478, 6540, 6573, 6574, 6595, 6683, 6989-6991, 7144, 7568
with fungicide and insecticide mixtures, 789, 4889, 6640, 6991
with growth substances, 12, 61, 590, 593, 597, 830, 972, 1021, 1061, 1109, 1304, 1576, 2249, 2439, 2879, 2936, 3010, 3423-3425, 3916, 4053, 4278, 4933, 5032, 5033, 5263, 5369, 5816, 5875, 6077, 6641, 6859, 6992, 7130
with hot or cold air—*see also below*, vernalization—2372, 3162, 3406, 3792, 4895, 5369, 5816, 6077, 6582, 6593, 6989-6991
with hot or cold water, 87, 791, 1304, 1843, 2907, 3020, 3126, 3273, 3523, 5445, 5579, 5970, 6593, 7362
with insecticides, 845, 846, 854, 883, 1043, 1938, 2189, 3063, 3089, 4812, 4854, 4895, 6542
by irradiation with gamma rays, X-rays, etc., 1021, 1068, 1363, 1610, 1843, 1854, 1857, 3413, 3861, 4501, 5021, 5301, 5645, 6681, 6971
by irradiation with ultrasonic waves, 3545
machines and apparatus for disinfecting, 2189
with nitrogen atmospheres, 3009
with nutrients, 23, 5031, 5133, 6582
pelleting, 4735, 6640
with potassium compounds, 3424, 6989
seed coat removal, cracking or scarification, 2936, 3523, 4278, 5675, 6933
with sodium compounds, 3420, 6741
by stratification, 446, 1507, 3523, 3663, 4277, 4735, 6043
with sulphuric acid, 3397, 5369
with uranium salts, 3423
with various compounds, 4932, 5031
for virus control, 5075
with vitamins, 2231, 4932, 5031
utilization, a book on, 4204

Seed(s) (*continued*)—
variety identification by, 2417
vernalization—*see also above under* treatment with hot or cold air—12, 831, 2879, 2895, 2901, 4296, 5379, 6623, 7153
virus detection in, 4586
virus transmission by—*see* Virus
Seedlings—
physiologically dwarfed, 2486
production—*see also separate crops*—methods compared, 4744
transplanting, labour requirements, 5803
Selenaspidus articulatus, 1749
Senecio vulgaris, as a virus host, 627
Senegal, crops, 1817, 6475
Senescence in flowers—*see under* Flowers, cut
Senescence in plants, factors affecting, 2222, 2252, 2983, 4116
Septoria—
anthurii, 6855
apii, 868, 869, 2913, 4821, 6549, 6550
cannabina, 7160
lactucae, 3020
lycopersici, 3120
spp., unspecified, 2744
Sequoia sempervirens, 430
Servicio coop. interamer. Agric., Ecuador, A.R., 5984
Sesamia cretica, 5540
Sesamum indicum (sesame), 3616
Sesbania aegyptiaca, 3782
Setaria spp., for soil conservation, 1600
Sewage for composting and manuring, 1306, 2850, 4325
Sewage sludge, injury to plants, 1306, 2850
Seychelles, crops, 3837
Seychelles Dep. Agric., A.R., 202
Shade—*see also* Light—
crop requirements and responses—*see also* Cacao, Coffee *and* Tea *under* shade—1374, 2336, 3782, 6482, 7489
nutrition and composition of crops in relation to, 1854, 5588, 5589, 5593, 7382, 7429, 7455, 7489, 7540-7542
trees and plants—*see also species of Acacia, Albizzia, Cajanus, Grevillea, Polyscius and Sesbania*—
destruction of, 7381
pests, 7451
root systems, 4231
Shallot—
composition, 4984
propagation from sets, 3072
storage, 6473
varieties, 4984
Shasta daisy—*see under* Chrysanthemum
Shelter belts—*see* Windbreaks
Shelter for workers, plastic tent, 2303
Shoot tip analysis in nutrition studies, 4075
Shrubs—*see* Trees and
Sicyos angulatus, 5888
Sierra Leone Dep. Agric., A.R., 203
Silicates in plant nutrition, 6494
Silicon content of plants, 500
Simmondsia chinensis, 5433
Sinningia speciosa—*see* Gloxinia
Sinoxylon sexdentatum, 2696
Sisal—
a book on, 7161
fibre drying, 4232
fibre quality, 205
nutrition, 5406
production and trade, 1570
propagation, 4231
research in East Africa, 1580, 2365
weed control, 3577
Siteroptes graminum, 6817
Sitona lineatus, 2998, 6632
Skimmia spp., breeding, 6798
Skimmia spp., propagation, 6802
Slugs and their control, 88, 1141, 2284, 2865, 3180, 4132, 4147, 5913, 6498, 6796
Small fruits—*see also separate crops*—
breeding and selection, 220
growing, a book on, 6183
growing in various countries, 4463, 4464, 6184
nutritive value, 2581
pest control, 5910
research in Ireland, 2580
root studies, 4169
soil management, mulching, 5825
soil management, weed control, 4123, 4124, 4312
storage and transport, 68
Smog—*see under* Air pollution
Snails and their control, 1754, 6498, 6796
Snapdragon—
breeding and genetics, 5968
diseases, 1186, 1202, 5154, 6843
flower colour and pigments, 5153
growing under glass or plastic, 142
mutations, 5153
physiology, light and temperature responses, 1201
physiology, oxygen requirements, 3260
propagation by cuttings, 3259
salt tolerance, 3197
seed germination, 1200
seed sowing, time of, 3258
seedling production, 1200, 1201
soil aeration, 3260
soil sterilization, 6843
varieties, 776, 5152
weed control, 6808
Snow barriers, trees as, 531
Snow retention, soil cultivation methods for, 563
Snowdrop, air pollution, 87
Snowdrop, bulb production, 1207
Sodium—*see also* Salts—
absorption and translocation, 27, 459, 1309, 6586
content of plants, factors affecting, 1737, 2959, 3169, 7395
deficiency symptoms, 1821

Sodium (*continued*)—
determination, 2300, 2301, 7268
interrelationships with other elements, 27, 796, 1389, 1906, 6586
nutrition of plants, 1309, 3572, 5106, 5404, 6880
Soft fruits—*see* Small fruits *and individual crops*
Soil(s)—
aeration, 773, 1083, 1708, 3260, 4099, 5717, 5828, 6471
analysis as a guide to plant nutrition, 1694, 1695, 4331, 4870, 5238, 5688, 5956, 6590, 7336
a book on, 4206
compaction, 287, 462, 927, 1084, 2358, 2457, 3682, 4866, 5040, 6746
conditioners and amendments, 158, 162, 303, 1306, 1388, 2965, 4494, 5011, 5137, 5523, 5970, 6264, 6889, 6939, 7267
(and water) conservation for—
deciduous fruit trees and vines, 290, 563, 2472, 2670, 4539, 6264
tobacco, 1382
various tropical and sub-tropical crops, 1490, 1600, 1903, 2056, 3626
depth and volume, plant growth in relation to, 5585
drainage, 293, 2057, 3506, 5717
electrification, crop responses to, 3114
heating by—
electricity, 1034, 1294, 1302, 1303, 4197, 6804
hot air, 4192
hot water, 2845, 2847, 4197
waste heat from industry, 2846
inoculation with azotobacter, 5975, 6491
micro-organisms—
electric current affects, 5824
pathogenicity, factors affecting, 5084
root growth affected by, 3149, 6072
soil management practices and fertilizers affect, 6072
moisture—*see also below*, water—
determination—*see also* Irrigation, needs—1689, 3682, 4065
diseases in relation to, 3360
plant composition and metabolism affected by, 295, 4874, 6587, 7129
shade trees affect, 3867
nitrification and ammonification, factors affecting, 6480
pH
disease responses, 661, 849, 1128, 1345, 4228
factors affecting, 1509, 5775
nematode responses, 1737
nutrient availability affected by, 4999
plant needs and responses, 929, 4750, 4781, 5205, 5208
potting, 1079, 1083, 1151, 1239, 1261, 2193, 2346, 4063, 5040, 5141, 5953, 6790, 6929, 6939
Soil(s) (*continued*)—
rehabilitated bauxite-mined, crop growth on, 3774
salinity, 27, 566, 929, 1348, 1700, 2060, 2959, 2960, 3371, 3697, 4749, 5206, 6271, 6272
sickness—*see also* Replanting—193, 688, 1294, 2492, 2692, 4571-4573, 6178, 6308, 6798
sterilization—*see also* Fumigation, soil—
by chemicals, 1117, 3237, 3270, 5149
earthworm populations affected by, 100
equipment, 2343, 5823
by heat, 4061, 4860
plant growth affected by, 4061
by steam, 100, 160, 777, 2345, 3087, 4936, 5953, 5955, 6666, 6748
by various methods, 803, 4736, 4805
surveys for disease spread, 7212
temperature—
control, 4179
crop responses, 1772, 3598, 3680, 5508, 5538
disease incidence and development affected by, 1345, 2963
factors affecting, 798, 2615, 3867, 4935, 5538, 6480, 6481
nutrient absorption affected by, 2990
transport, machines for, 4833
types—*see also under separate crops*—
nutrient absorption affected by, 5269, 6747
variation, cultivation and cropping to reduce, 4305
water—*see also above*, moisture—
intake and reserves, 291, 1699
-logging—*see also* Flooding—crop responses to, 292, 1688, 2043, 2454, 2726, 3190, 3652, 3942, 3959, 4099, 4328, 4340, 5990
table, crop responses to, 312, 2055, 5963
Soilless culture—
aeration in, 42, 2215, 5586
economics, 2214, 4078, 4830, 5835
equipment and containers, 2214, 4076, 4078, 4079
nutrient solution, antibiotic applied in, 3167
nutrients and media for, 29, 30, 2003, 2216, 3276, 4077, 4079
for nutritional and other studies, 2135, 2215, 2347, 2923, 2990, 3450, 3572, 4076, 4077, 5056, 5246, 5247, 5268, 5328, 5404, 5595, 5686, 6710, 6880, 7039, 7221
of plants—
castor beans, 4079
citrus seedlings, 5447
ornamentals, 3190, 3193, 3276, 3286, 5201, 6915
pineapples, 2003
temperate fruits, 2215, 4079, 5835
vegetables, 29, 30, 888, 1080, 4079, 4830
Solanesol biosynthesis, 1426
Solanum quitoense, 4034, 4035, 5984, 7570
Solanum spp., freezing of tissues, 4044
Solenopsis saevissima, 2089

Solomon Islands—*see* British
Somalia, crops, 7391
Sonchus asper, 6570
Sophora japonica, 6806, 6962
Sophrorhinus spp., on *Cola*, 7565
Sorbitol in plants, 332
Sorbus spp.—
composition, 6963
diseases, bacterial, 186
edible, 221, 5988, 6119
ornamental, 1351, 6806
rootstocks for, 6806
as rootstocks for rosaceous genera, 5113, varieties, 221
Sorghum halepense, 2067, 4311, 5448, 5720, 5721, 7511, 7512
Sounds, ultrasonic—*see* Ultrasonic
South Africa(n)—
agricultural research, 2353
crops, 1579, 1653, 1902, 5685
flora, trees, 4205
Sugar Ass. Exp. Stat., A.R., 2037
Sugar Year Book, 5700
South Australia—*see also under* Australia—
bot. Gdn, A.R., 5109
crops, vegetables, 4731
Minist. Agric., A.R., 5976
Southern Rhodesia—*see under* Rhodesia
Soymida febrifuga, 5389
Spacing—*see individual crops under* planting *or* spacing
Spain, crops, 1788, 3654, 4558, 4559, 7497
Spain, horticultural research, 4038
Spanioza erytreae—see Trioza
Sparaxis spp., air pollution, 87
Sparganothis sulfurana, 2808
Sparrow control—*see under* Birds, harmful
Spearmint—*see under* Mint
Specific heat of horticultural products, 8
Spectrographic analysis and spectrography, 2300, 2301, 5278, 5298
Spermophagus subfasciatus, 2969
Sphaeroblasts, 333, 2414, 2426
Sphaerotheca—
humuli (= *S. macularis*), 166, 436, 437, 676, 4640, 6174
mors-uvae, 2775, 4483, 4485
pannosa—*see* Rose diseases, fungus, powdery mildew
spp., unspecified, 2602
Sphenoptera trispinosa, 726
Spice plants—*see also separate plants*—a book on, 3507
Spice plants in tropical and sub-tropical countries, 196
Spilocaea eriobotryae—see Fusicladium eriobotryae
Spilonata ocellana, 715, 741, 2799, 4674
Spinach—*see also* Spinach-beet—
breeding and selection, 6711
climate, air pollution, 2179, 3099, 4752
composition, 45, 46, 1050, 2227, 3029, 3100, 3101, 4071, 5925, 6510, 6714
Spinach (*continued*)—
diseases, fungus, 3098, 5005, 6713
diseases, resistance, 3097, 5005
flowering, factors affecting, 2222, 6711
flowering, metabolic changes associated with, 2227
growing in Great Britain, 5004
growth, senescence, 2222
harvesting, 3097, 6506, 6711
New Zealand, 5004, 5006
nutrition—
azotobacter inoculation, 5975
manuring and major elements, 3029, 3099, 3101
minor elements, 795, 6493
salt tolerance, 796
physiology—
growth substance responses, 2222, 6712
photoperiodic and other light responses, 1050, 2222, 2227, 2229, 4746
protein synthesis, 5843
research in Holland, 6473
root growth, 2229
root injury, plant residues cause, 4751
seed—
germination, 2843, 4752
sowing depth, 2843
treatments, 805
soil management, rotations, 4751
soil management, weed control, 802, 2347, 2358, 2854, 2855, 3058, 4756, 6488, 6489
spray residues, 115, 4151
storage, 6507
varieties, 778, 3097, 5005
Spinach-beet growing in Great Britain, 5004
Spiraea—
forcing, 5220
growth substance responses, 1310
pests, 5226
propagation, 1294, 3204, 5803
Spodoptera exigua, 6500
Spray(s)(ing)—
adjuvants, 363, 1452
application from aircraft—*see* Aircraft
a book on, 75
concentrate and high-volume compared, 705, 717, 2378, 2833, 3171, 4727, 4820
concentrate and low-volume, 680, 3829, 3938, 6375, 6440, 6468
coverages or deposits, 717, 772, 1450, 1751, 3716, 3810, 4136, 6459, 6463, 7072, 7445, 7452, 7453
drift, 773
and dusts compared, 6390
economics, 601
equipment—*see also* Dusters—
booms, 4729, 4943
for chrysanthemums, 3236
for experimental purposes, 82-84
for glasshouses, 2321
knapsack, 82, 3892, 7453
lances, 2306

Spray(s)(ing)—equipment (*continued*)—
low-volume, 771, 1294, 1450, 2833-2835, 4820, 7081
nozzle arrangements, 1450, 4943
for orchard and plantation crops, 770-772, 1751, 1798, 3892, 4026, 4027, 6470, 7452
for small fruits—*see* Vine spraying
testing, 2268, 7445, 7452, 7453
injury to plants—*see also separate plants and under* Acaricides, Fungicides, *etc.*—6460
materials—*for particular chemicals see* Acaricides, Fungicides, *etc.*—risks in agriculture from, 4149
programmes for deciduous fruits—*see also* Apple *and* Vine—2694
programmes for tropical and sub-tropical fruits—*see also* Citrus—1979
residues—*see also separate groups of chemicals and separate crops*—general, 116, 2285, 2286, 4149, 4150
specifications, 3727
Squalene content of plants, 5926
Squash (*Cucurbita moschata* and *C. pepo*)—*see also* Cucurbits *and* Marrow—
composition, 904, 2301, 4849, 6563
diseases, 2369, 6573
fruit set and quality, 904, 3157
growing in Great Britain, 903
growth substance responses, 3157, 4763, 5869
harvesting, 4848
herbicide responses, 4835
pests, 2860, 2955, 4861, 6502
physiology, photosynthesis, 5842
pollen morphology, 4846
roots, adventitious, 4847
soil management, irrigation, 797
soil management, weed control, 802
storage, 904, 4763, 4848
varieties, 903, 904, 2359, 4845
Squirrel—*see under* Rodents
Stagonospora curtisii, 2345
Staining biological specimens, 5929
Staking—
anchorage of posts, 4531
post durability, 2378
various types of post for, 548-550, 2667, 4531
Stanhopea spp., evolutionary studies, 1263
Starch—
content of—
roots, potassium in relation to, 2140
small fruits, 2581
tobacco, 5275
plant sources of, 7202
synthesis and metabolism, 2966, 4915
Starter solutions, 840, 1005, 1192, 2575
Statistical—
analysis of trials, 2293, 3945, 4159, 5919
analysis of yield variations in sugar cane, 2099
design of trials, 773, 2110, 2293, 2345, 2371, 3410, 5254, 5919, 6471, 7501
Statistical (*continued*)—
field experiments with perennial crops, duration, 1907
methods for—
estimating or measuring—
crop values, 2292
fruit damage, 715
growth, 773, 4159
yield compensation, 5254
interpreting leaf-analysis data, 4159
pest and disease studies, 7389
sampling, 715, 2345, 4461, 4676, 6279, 6410, 7447
science in agriculture, a book on, 4158
Statistics—*see* Agricultural statistics *and* Trade, *and for their use in experiments*, Statistical
Stellaria media, 6895
Stem-builder—*see under* Interstock
Stemphylium solani, 1129, 3167, 6777
Steneotarsonemus pallidus on cyclamen, 6864
Steneotarsonemus spp. on strawberries, 87, 436, 691, 707, 2769, 4568, 4669
Stenotaphrum secundatum, 6891
Stephania hernandifolia, 3553
Stephanitis pyri, 2820
Stephanitis typicus, 5630, 7400
Stephanoderes hampei, 5651, 7458
Sterculia tragacantha, 3519, 3554
Stereum insignitum, 660
Stereum purpureum, 659-661
Steroids in plants, 3527
Sterols—
biosynthesis, 1426
growth regulating activity, 4053
in plants, 1513
Sthenias cylindrator, 7331
Stigmella malella, 745, 4688
Stilbum flavidum—see Omphalis flavida
Stock (*Matthiola* spp.)—
breeding and genetics, 3261-3263
composition, seed, 1203
flower colour, genetics of, 3263
light responses, 776
seedling production, 460
Stockbridge House exp. Hort. Stat., N.A.A.S., A.R., 179
Stomatal movements, 33, 1838, 5839, 5936, 7034
Stomatal penetration studies, 80
Stone fruits—*see also separate fruits*—
breeding and selection, 220, 2384
diseases—
bacterial, 6344
fungus, 662
virus, 4585, 6315, 6323
fruit thinning, 371
pests, 712, 6407, 6438
research in the Orange Free State, 2352
soil management, irrigation, 5976
soil management, weed control, 4459
Stone-leek—*see* Onion, Welsh

Storage—*see also separate crops*—
buildings and chambers—*see also below*, gas—
air circulation and flow in, 6601
air washing and purification in, 2535, 6354
cold, 70
controlled-atmosphere (gas)—*see below under* gas
cooling and pre-cooling systems in—*see below*, cooling
general-purpose shed for fruit, 2533
humidity control in, 6151, 6152
reviews on, 2260, 6143
temperature variations in, 69
ventilated or air-cooled, 69
clamps, 2885, 4998
coatings for fruit, etc., 188, 848, 5501
cold, 4789, 4800
containers—
construction, 430, 5971
preservatives for, 2680
stacking in the store, 2524
types compared, 6148
cooling and pre-cooling methods and responses, 387, 410, 1765, 4412, 4413, 4467, 4773, 4843, 5494, 5558, 6147, 6170, 6507, 7288
dips for fruits and vegetables, 68, 427, 470, 811, 996, 1761, 2548, 3732-3734, 3737, 4434, 4437, 4763, 5501, 6165-6168, 7291, 7293
diseases and disorders—*see also below*, life—control or prevention by gases, various, 6186, 6282, 6283
diseases and disorders, control or prevention by hot water treatment, 3732-3734, 4439
ethylene used in—*see* Ethylene treatment
frozen pack, of fruits and vegetables, 2325, 2344, 2356, 4764, 6177
of fruits—*see also separate fruits*—
entrepôt, 2261
for pest control, 4685
reviews on, 605
gas, 68, 411, 412, 1783, 2340, 2359, 2550, 3064, 3091, 4181, 4418, 4421, 4434, 4435, 4685, 5956, 5976, 6144, 6151, 6152, 6154, 6166
life—
breeding to improve, 3115
forecasting, 2370
gamma irradiation used to prolong, 68, 3064, 3065, 4422-4424
growth substances prolong—*see* Growth-substances
liners and bags, plastic—*see under* Plastic
losses of vitamins in, 5495, 6508, 6533, 6600, 7287
physiological and biochemical aspects, 811, 2550, 4998, 5100, 6508, 7287
of plants—*see* Nursery stock *and* Strawberry planting stock
of vegetables—*see also separate crops*—
entrepôt, 2261
Storage (*continued*)—
wraps, 1771, 4434, 6148, 6167-6169, 6780, 7294, 7295
Stransvaesia davidiana, 3362
Stratification—*see* Cuttings, storage, *and* Seed treatment
Straw—*see also* Mulching materials—as a manure, 2850, 4748
Strawberry—*see also Fragaria*—
breeding and selection, 219, 436, 437, 2558, 2559, 4447, 4739, 5968, 6175
climate—*see also below*, physiology—spring frost protection, 454
climate, winter hardiness, 6044
composition—
fruit and juice, 439, 471, 2574, 2576, 2577, 2579, 4451, 4462, 6177
leaf, 466, 471, 498, 4454, 4455
plant, 2564, 4449
seed, 2563
diseases—*see also below*, varieties—
bacterial, angular leaf spot (*Xanthomonas fragariae*), 6346
cause complex, root rot, 610
fungus—
Diplocarpon earliana, 4640
flower and fruit rots, various, 470, 675, 2269, 6186
grey mould (*Botrytis cinerea*), 303, 436, 674, 2573, 2746, 2769, 6186, 6377-6380
leaf spot and black seed (*Mycosphaerella fragariae*), 6378, 6381
powdery mildew (*Sphaerotheca* spp.), 166, 436, 437, 676, 4640, 6174
red core or red stele (*Phytophthora fragariae*), 184, 2354, 2747, 6382
root rot (*Phytophthora cactorum*), 6383
root-infecting, various, 6384
wilt (*Verticillium albo-atrum*), 2559, 2748, 4642, 6175
general, 90, 4568
virus, 152, 436, 627-629, 2356, 2720, 4216, 4593-4598, 5975, 6333-6335, 6397
economics and labour requirements, 5803, 5956, 6172
flower bud initiation and development, 194, 436, 446-450, 464, 2564, 4449, 4450, 4452, 6181
flower removal, a tool for, 452
fruit—*see also above*, composition—
colour, composition in relation to, 2579
harvesting and grading, 448, 468, 469, 2578, 4460
processing, 2344, 6177
ripening, factors affecting, 194, 449, 2573, 2574, 4450, 4451, 6181
ripening, metabolic changes during, 4462
size, factors affecting, 303, 2565, 2572, 2574, 4451, 4456
size, measurement of, 4461
storage and transport, 470, 605, 4467, 6186
growing—
annual culture, 5955, 6178

Strawberry—growing (*continued*)—
in Argentina, 4440
of everbearing types, 784, 4442, 6173
under glass or plastic, 435, 453-455, 2565, 4441, 4443
in the U.S.A., 452, 2555
in various European countries, 455, 2556, 6172
in various tropical countries, 784, 4732
growth—*see also above*, flower bud, *and below*, root *and* runners—
gamma irradiation affects, 2564, 4449
phases, 446
-substances, endogenous, 2563, 2564, 4448, 4449
-substances, responses, 159, 194, 448-450, 465, 4450-4452, 6181
variations in, 445
herbicide responses, 282, 285, 4459
leaf characters, disease resistance in relation to, 6174
leaves, post-harvest removal, 174, 2359, 4457, 4669
nutrition—
foliar, 28, 467
manuring and major elements, 462-466, 498, 675, 2572, 2575-2577, 4453-4455, 4598
minor elements, 466, 467, 498, 4598
salt tolerance, 459
pests—
aphids (various species), 2279, 2769, 4668
beetle (*Polydrosus dohrni*), 6418
birds, 2822, 2823
general, 2768
leaf rollers (various species), 2769, 2790
mites (*Steneotarsonemus pallidus* and other species), 87, 436, 691, 707, 2766, 2769, 4142, 4568, 4668, 4669, 6384
nematodes, 610, 2720, 2757, 4141, 6334, 6396, 6397
root weevil (*Otiorrhynchus sulcatus*), 4568
seed beetle (*Harpalus rufipes*), 2291
physiology—
organic acid metabolism, 4462
photoperiodic and other light responses, 435, 446, 447, 466, 2564, 2565, 4449, 4452
photosynthesis, 465, 5842
respiration, 4593
temperature responses, 446, 2565, 4452
translocation, 465
planting—
dates, 434, 435, 4642
labour requirements, 5803
machines, 451
in old strawberry land, 6178
stock—*see also below*, runners
heat treatment, 4593
packing and storage, 2566-2568, 2575, 5970
production, general, 460, 461, 4274
runner size, 461, 2569
Strawberry—planting (*continued*)—
systems, 434, 453, 458, 2572, 6179
pollination, 2565, 4447
polypoidy, induction and effects, 436
production and trade, 2556
propagation—*see below*, runners
research in—
Australia, 2370
European countries, 436, 2344, 2348, 2354, 2557, 4227, 5969
Kenya, 2365
North America, 2350, 2355, 2359, 5977
root—
exudates, 4641
growth, 462, 464, 465
mycorrhiza, 6182
runners—*see also above*, planting stock—
formation, growth substances or herbicides affect, 159, 165, 449, 450, 2570, 4448, 4450, 4452
formation, various factors affecting, 464, 4455, 4456, 4596
removal, 2571, 4642
seed—
sowing time, 4447
stratification, 446
virus transmission by, 627
soil—
amendments, 303, 462
compaction, 462
management—
fumigation, 6334, 6396, 6397
irrigation, 303, 458, 459, 462, 2572, 2574, 4455, 5826
mulching, 157, 162, 178, 454-457, 2573, 4455-4457
preparation for planting, 6179
weed control, 76, 178, 285, 286, 802, 2358, 2460, 4312, 4458, 4459, 4756, 5890, 5891, 5971, 6179, 6180, 6517
requirements, 461, 2346
sickness, 6178
soilless culture, 4079, 5835
spray (and other chemical) injuries, 117
spray residues on fruit, 105, 2291, 4151, 4155, 4156
varieties—
descriptions of individual, 153, 184, 441-444, 2561, 4445, 4446
disease resistance, 184, 437, 441, 443, 2559, 2747, 4445, 6174, 6175, 6335, 6346, 6381
everbearing, 4442, 6173
for forcing, 2565, 4443
for processing, 68, 222, 439, 442, 444, 2551, 6177
in various countries—
European, 434, 435, 438, 440, 455, 781, 2560, 5990, 6176
North American, 2570, 4444
tropical and sub-tropical, 5979
the U.S.S.R., 221
yield variations within, 2562
Strelitzia spp., growing in Spain, 4216

Streptocarpus spp., flower induction, 2223, 2224
Streptomyces scabies, 849
Striga asiatica, 2073
Stromatinia gladioli—see Sclerotinia
Strontium determination, 2300
Strontium in soils, plants and foods, 867, 2874, 4074, 6511
Strumeta musae, 1851
Strumeta tryoni, 712, 2785
Strychnos spp., alkaloids, 3555, 5359, 5380
Sturmia harrisinae, 6441
Sub-tropical fruits, a book on, 1634
Sucrose—*see under* Sugars *and* Sugar-cane
Sugar(s)—*see also* Carbohydrates—
  cane—*see* Sugar-cane
  determination and separation, 1535, 1625, 2298, 2581, 3109
  maple—*see* Sugar-maple
  in plants—
    biosynthesis and metabolism, 1420, 2096, 2208, 3131, 3175, 4082, 4353, 4354, 4482, 4549, 5094, 5095, 5437, 5748, 6240, 6620, 6725
    contents, factors affecting—
      disease incidence, 2943
      growth substances, 4505
      nutrition, 2989, 3139, 5270
      temperature, 3754
      various, 37, 866, 5275
  radioactive, 2096, 3131, 4353, 4549, 5421, 5437, 6620
  use—
    for cut flowers and branches, 3202, 5221
    for cuttings, 5761
    in foliar nutrition, 1094, 2231, 3139, 5035
    for frost protection, 2169
    in pollen growth media—*see under* Pollen germination
    in tissue culture media, 2220, 4082
  Yearbook, South African, 5700
Sugar-cane—
  bagasse—*see also below*, by-products—1274, 2000, 2047, 5753
  breeding and selection, general aspects and methods, 2039, 3946, 7503
  breeding and selection, in various countries, 2036, 2041, 3942, 3946, 5704
  by-products—*see also above*, bagasse—3960
  climate—
    atmospheric carbon dioxide, 2097
    cold injury, 5724
    micro-, 3955
    rainfall responses, 3956, 5734
    yield variations in relation to, 2099, 2100, 3956
  composition—*see also below*, juice—
    mineral elements—*see also below, under* crop-logging *and* nutrition—7515
    opal phytoliths, 4000
    sucrose—*see below*, sucrose
  crop-logging—*see also below*, nutrition, leaf, etc.—5727, 5729
Sugar-cane (*continued*)—
  diseases—
    bacterial—
      leaf scald (*Xanthomonas albilineans*), 2078, 2079
      mottle (*Pectobacterium carotovorum*), 5737
      red stripe (*Xanthomonas rubrilineans*), 7522
      stinking rot (*Pseudomonas desaiana*), 7522
    cause uncertain, 2074, 7522
    fungus—
      pineapple disease (*Ceratocystis paradoxa*), 5741
      red rot (*Physalospora tucumanensis*), 2088, 3988, 5739, 5740, 7522, 7523
      rust (*Puccinia kuehnii*), 7522, 7524
      sett rot (*Phytophthora* spp.), 5739
      smut (*Ustilago* spp.), 2080, 3989, 7522
      top rot (*Fusarium moniliforme*), 7522
      wilt (*Cephalosporium sacchari*), 7522
      yellow spot (*Cercospora köpkei*), 5741
    general, in East Africa, 4231
    non-parasitic, 2064, 2065
    varietal resistance, 194, 2080, 3952, 3988, 5737, 5740, 7523
    virus—
      chlorotic streak, 2075, 5735, 7517
      mosaic, 2085, 3980, 7518
      ratoon stunting, 2037, 2076, 2077, 3985-3987, 5736, 7519, 7520
  economics, 3944
  field trials, design, 7501
  field trials, results, analysis of, 3945
  flowering and its control, 2037, 2043, 2044, 2076
  growing in various countries, 2038, 2326, 5699, 7497
  growth—*see also below*, physiology *and* ratooning— -substance responses, 2037, 3982-3984, 5713, 7528
  growth, tillering, 2055, 3981, 5715, 7513
  harvesting—
    machinery and equipment, 2102, 3999, 7532
    sucrose losses during, 2037
    timing of, 2101, 5750, 7531
  herbicide responses, 2068, 7509
  juice—*see also above*, composition, *and below*, sucrose—quality, factors affecting, 2102, 3959, 3962, 3982, 3984, 4001, 5709, 5724, 5749-5751, 7513, 7533
  juice, quality, sampling and analytical procedures for determining, 2103, 5752, 7530
  leaf analysis—*see above under* composition *and* crop-logging *and below*, nutrition, leaf
  leaf, defoliation, flowering prevented by, 2044
  micro-organisms associated with, 3965, 5738, 7521

Sugar-cane (*continued*)—
nutrition—*see also above*, composition, *and below*, soil management—
factory wastes for, 2047, 2061, 3960-3962
foliar, 5733
leaf and leaf-sheath analysis as a guide to, 1816, 2064, 5728, 5729
manuring and major elements in general, 2062, 2373, 3960, 5726, 5727, 5731, 5983, 5985
minor elements, 2065, 3970, 3971, 5731, 5733, 7516
nitrogen, 2037, 2063, 3964, 3966-3968, 5718, 5725, 5729-5731, 7513
phosphorus, 3963, 3964, 5730, 5732, 7514
potassium, 2037, 2064, 3963, 3964, 3969, 5729, 5730, 5732, 5734, 7514
soil analysis as a guide to, 5727
sub-soil application of fertilizers, 2059
parasitic plants attacking, 2073
pests—
ants, 2084, 2085, 2089
aphids (*Hysteroneura setariae*), 2085
army-worms (*Laphygma* and *Pseudaletia* spp.), 2086
birds, 2095
borers—
Diatraea saccharalis, 2087-2089
Elasmopalpus lignosellus, 7526
Migdolus moretesi, 5746
Scirpophaga nivella, 3993
control, biological, 2087, 2089
control, general, 2083, 2278, 3992, 5743
froghopper (*Aeneolamia varia saccharina*), 2090, 3996, 5744, 7525
gall midge (*Contarinia* spp.), 3997
nematodes, 2037, 2081, 2082, 3990, 3991, 5742
rodents, 2094, 7527
soldier fly (*Metaponia rubriceps*), 2091, 5747
termites, 2092
wallabies, 3998
white fly (*Aleurolobus barodensis*), 2093
white grubs (*Heteronychus* and *Lachnosterna* spp.), 3995, 5745
physiology—
absorption and translocation of nutrients, 5732
enzyme activity, 3983, 5748
photoperiodic responses, 2037
photosynthesis, 5847
respiration, 3983
sugar accumulation and transformation, 2096, 5748, 7533
water relations, 3955, 3983
planting—*see also below*, setts—
depth, 2048, 2049
methods compared, 2047
methods in wet soils, 2046, 2050
time of, 2050, 3981
production and trade, 2034, 2035
ratooning, 7502
Sugar-cane (*continued*)—
research in—
Australia, 3941
British Guiana, 2362
the British West Indies, 5702, 5703, 7499, 7500
Ceylon, 5979
Hawaii, 5701
India, 3942, 3943, 5714, 7498
Kenya, 2365
South Africa, 2037
Spain, 4216
the U.S.A., 4221
Vietnam, 2377
root(s)—
cells, nematodes affect, 2081
growth, factors affecting, 5739
micro-organisms associated with, 3965, 7521
systems, 2055
setts—*see also above*, planting—
germination, factors affecting, 2048, 2049, 5712, 5745, 7504
treatments—
fungicide and insecticide, 2045, 3954, 3989, 5741, 5746
growth substance, 5712, 7505
heat, 2036, 2074, 3985, 3986, 3989, 7504, 7519, 7520
soaking in water, 2045, 7504
soil—
erosion and conservation, 2056
management—
cultivation, 2058, 2059, 3957, 5719
drainage, 2057, 3506, 5717
green manuring, 2066, 5721
intercropping, 2050, 2051, 3511, 3944, 5716, 7342
irrigation, 2052-2054, 3957, 3958, 3962, 3990, 4064, 4235, 5725, 5726, 5750, 7513
mulching, 2037
trash and crop residue disposal, 5723, 7526
weed control, 194, 1822, 2066-2072, 3972-3980, 5538, 5720-5722, 7506-7512
micro-organisms in, 3965, 7521
pH, 5733
salinity, 2060
types and requirements, 5707, 5719
water tables, 2055
waterlogging and flooding, 2041, 2050, 2051, 3959
stand-over, yields of, 2101
stubble shaving, 5723
sucrose—*see also above* juice—
accumulation and transformation, 2096, 5748, 7533
content, various factors affecting, 2099, 2100, 5724, 5731, 5749, 5750, 7505, 7513, 7515, 7531
: total solids ratio, 7529

Sugar-cane (*continued*)—
tillers—*see above*, growth
transport, 2102, 7532
varieties—
descriptions of individual, 2042
disease resistance—*see above*, diseases, varietal
fertilizer response variations, 3967, 3968
pest resistance, 3991, 3993
in various countries—
Australia, 3947-3949, 5705
British Guiana, 3950
China, 5710
India, 194, 2040, 3951, 3952, 3967, 3968, 5708, 7502
Latin America, 5706, 5707
Mauritius, 3953
Nigeria, 2367
Pakistan, 5709
the U.S.A., 5711
yield(s)—
experimental and farm compared, 5920
surveys, 2098
variations, factors affecting, 2099
Sugar-maple—
defoliation, artificial, 5426
diseases, 5426
growth, 5222, 5424
nutrition, 3622
physiology, 4108, 5222
salt injury, 5224
sap—
collection and composition, 1624, 3622, 3623, 5424, 7198
flow and yields, factors affecting, 5424, 7199
micro-organisms in, 7199
spray injury, 5970
Sulphates—
absorption and translocation, 3131, 5777
contents of plants, factors affecting, 2959
radioactive, 5777
Sulphur—
amino acid metabolism affected by, 3029
application, foliar, 5642
contents of plants, factors affecting, 2906, 5247
deficiency symptoms, 156, 1860, 1994, 7383
determination, 5923, 5975
dioxide—
injury to plants, 87, 3590
measurement in air, 4048
treatment of fresh fruits, 582, 4553, 6282, 6283
interrelationships with potassium, 7015
metabolism in plants, 3514
nutrition of crops—*see also* Tobacco—836, 2872, 3029, 5106, 5642, 5776
radioactive, 3514, 5642, 6070, 7156
Sulphydryls in relation to frost resistance, 2170
Sumac—*see Rhus*
Summerland Res. Stat., B.C., A.R., 180
Sunburn injuries to plants and methods of protection, 2020, 7491
Sunflower mycorrhiza, 1504
Sunflower nutrition, 25, 27
Sunlight—*see* Light
Surinam—
agric. Res. Stat., A.R., 2375
crops, 1650
Dep. Agric., A.R., 204, 4238
Survey methods in agriculture and horticulture, 508
Swaziland Dep. Land. Utiliz., A.R., 5985
Swede—*see also under* Brassicas—
breeding and selection, 4775
composition, 4801, 6510
diseases, 849, 2337, 2899, 5964, 6540
nutrition, 1037, 2342, 5964
pests, 849, 854, 2903, 2909, 4225, 4809, 6542, 6544
seed—
germination, 790, 845, 846
production, 4775
sowing rates, 2900
treatment, 845, 846, 854, 6540
soil management, weed control, 6485
varieties, 2899, 4801
Sweden, crops, fruit, 4248
Sweden, plant atlas, 4207
Sweet pea—
diseases, 90, 6496
growing under glass, 2348, 5155
growing in various countries, 3264, 5155
seed coat permeability to gases, 10
seed extract, root growth stimulated by, 51
varieties, 5155
Sweet William diseases, 6818
Swertia spp., as medicinal plants, 1547
Swiss chard—*see* Spinach-beet
Syagrus weddeliana, 1307
Sylepta silicalis, 4145
Symphoricarpos racemosus, 3383
Symphoricarpos sp., pollen germination, 2255
Symphylids, control, 3088, 5912
Synanthedon myopaeformis, 4698
Synanthedon pictipes, 2806, 4215
Syringa—
josicaea, 1310
spp., growth substances, responses, 5214
spp., pollen germination, 2255
vulgaris—*see* Lilac
Systates lepidotus, 1865
Systole albipennis, 7109

Tabernaemontana affinis as a medicinal plant, 1548
Tagetes spp.—
breeding and genetics, 3265, 5156
composition, 5157, 6845
light responses, 1190
nematodes controlled or reduced by, 687, 1041
nutrition, 2849, 6845
seedling production, 1190

Taiwan, crops, 2038, 5684
Tamarind (*Tamarindus indica*), 4036, 5799
Tanganyika—
Coffee Res. Stat., Lyamungu, Res. Rep., 7412
crops, 1599, 6474
Dep. Agric., A.R., 4239
Sisal Grs' Ass., A.R., 1580
Tannin(s)—*see also* Polyphenols—
for blackening olives, 5526
chemistry, a review, 5428
in plant tissues, various, 562, 4218, 4344, 5429
plants—*see also* Wattle—1626, 3527, 3554, 3624, 5361, 7200
Taphrina communis, 666
Taphrina deformans—see Peach diseases, fungus, leaf curl
Taraxacum officinale, 4051, 6895, 7145
Tarsonemus latus—see Hemitarsonemus
Tarsonemus pallidus—see Steneotarsonemus
Tartaric acid in plants and its metabolism, 4036, 4549, 5138, 5799
Taste panels for estimation of food quality, 4168
Tatura hort. Res. Stat., Victoria, A.R., 4226
Taxonomy, plant—
biochemistry in relation to, 813, 4167, 4877, 7303
a book on, 5950
systems of, 2166, 6844
Taxus spp.—
diseases, 3355
nutrition, 1306
pests, 1294, 6794
photoperiodic responses, 1305
propagation by cuttings, 1294, 1305, 3353, 3354, 6798
propagation by seed, 3353
soil management, methods compared, 1274
soil management, weed control, 3350
Tea—
breeding and selection, 2111, 2112, 2116
climate—
cold resistance, damage and protection, 2122, 5764
leaf die-back caused by, 2107
rainfall, spray retention affected by, 5782
temperature responses, 4029
wind protection, 5767
clones—*see also below*, varieties—2114, 4014
composition—*see also below under* nutrition *and* spray residues—
caffeine, 2151, 4029
mineral, 2137, 2138, 4071
polyphenols, 1626, 4030, 5787
various compounds, 2152, 2153, 4030, 7549
diseases—
cause uncertain, tea flower disease, 7553
fungus—
Armillaria mellea, 7554
Tea—diseases—fungus (*continued*)—
blister blight (*Exobasidium vexans*), 2105, 2142-2144, 4027, 5779-5781, 7552
brown blister blight (*Colletotrichum camelliae*), 5763
canker (*Macrophoma theicola*), 2141
die-back (*Leptothyrium theae*), 2141
grey blight (*Pestalotia theae*), 5763
maintenance-leaf fall (various organisms), 2140
root diseases, various, 2141, 5783, 7555
thorny stem blight (*Tunstallia aculeata*), 7556
general, 2139
non-parasitic, leaf die-back, 2107
virus, 7551
field experiments, design, 2110
flower bud initiation and development, 2118
growing—
in Africa, 2106
in Asia, 7536
glossary of terms connected with, 4010
growth—*see also below*, shade—
bud-break, factors affecting, 5769
rhythms or phases, 2118, 4007
stem diameter, defoliation affects, 7547
-substances, responses, 2124, 4024, 5760-5762
herbicide responses, 4013
history of, 7334
leaf colour, 7537
leaf removal, growth affected by, 7547
machinery, field, 4026, 4027
moss and lichen removal, 2141
mutations, 2115
nutrition—*see also above*, composition, *and below*, shade *and* soil management—
calcium, 2137, 5778
foliar, 7545
magnesium, 2138
manuring in general, 2117, 2133, 4014-4017, 5773, 5774, 7543
minor elements, 2105, 4018, 5776-5778, 7545
nitrogen, 2105, 2107, 2134, 2135, 4008, 7542, 7544, 7545
phosphorus, 2107, 2135, 2136, 2138
potassium, 2135, 2138, 2140, 3775, 5774
pests—
control, biological, 2145
general, 4236
insects, shot-hole borer (*Xyleborus fornicatus*), 2105, 2145, 2146, 4025, 4026, 7559
insects, various, 2105, 2145, 2147, 4022-4024, 4026, 5757, 7550, 7559
mites, 2105, 2141, 4021, 7547, 7550, 7558
nematodes, 2105, 2363, 4019, 4020, 7557
physiology—*see also below*, shade—
caffeine biosynthesis, 2151, 4029
catechin metabolism, 7561
enzyme activity, 4006

Tea—physiology (*continued*)—
phloem index, 7537, 7549
photosynthesis, 5765
radiation responses, 2115
planting, infilling, 2121
planting, spacing, 2120
plucking, 2105, 2122, 4028, 5784-5786
pollen storage and germination, 5537, 7549
production and trade, 2104
propagation—*see also below*, seed—
by cuttings, 4011, 5758-5763, 7538, 7539
general, 4231
nursery techniques, 2119, 4011
pruning and centering, 2122, 2125, 2126, 2133, 4007, 4012, 4014, 5769, 7550
quality, factors affecting, 2105, 2148, 4030, 5772, 5784-5786, 5788, 7545, 7550, 7562
research in—
Africa, 2107, 2368, 4239, 5978
Australia, 2370
India and Ceylon, 2105, 2108, 2109, 5754, 7534
South America, 200
root—
growth, 4008
starch deficiency, potassium deficiency causes, 2140
systems, 4009, 4231, 7548
seed—
germination, 5757
oil, 1604
production, 2116, 2117
size, 2118
shade—
general, 2127, 2133
nutrition in relation to, 2127, 2128, 4003, 4004, 4008, 7541, 7542
physiological and growth effects of, 4005, 4006, 4008, 5766, 5767, 7540, 7542
tree species and their management, 2129, 4003, 4022, 4023, 4025, 5767, 5770
soil—
conservation, 7535
management—
cover crops and green manures, 2130, 2131, 7546, 7557
drainage, 7535
intercropping, 2127
irrigation, 2123, 4006, 5768
mulching, 2107, 2133, 5775
weed control, 2105, 2127, 2132, 4013, 5770, 5771
pH, 5773, 5775, 5776
requirements and types, 4002, 5772
soilless culture, 2135
spray injury, 5757, 5771
spray residues and taint, 2148-2150, 5782, 7560, 7562
storage, 2154, 5788
varieties and hybrids—*see also above*, clones—2113
Temperature(s)—*see also under* Climate, Heat, Meteorology *and* Thermoperiodism—
controlled, chambers for—*see* Apparatus *and* Phytotrons
disease resistance and development affected by, 1118, 3289, 3713
flower sex expression affected by, 2001
growth substances interact with—*see* Growth-substances
of leaves—*see* Leaf
-light interactions—*see also* Photoperiodism—4745, 5034
low, chilling injury, 5100
low, requirements of trees and shrubs—*see under* Dormancy in woody plants
measurement of air, 2316, 4619
measurement in plant tissues, 6046, 7227
responses of plants—*see also above*, low, *and* Forcing, *and* Beans (*Phaseolus*), Cabbage, Pea, Tobacco *and* Tomato *under* climate *or* physiology—
cuttings, 1260, 4087
fruit and nuts, temperate, 258, 528, 534, 2354, 2449, 2487, 2586, 2645, 2646, 2648, 2649, 4226, 4302, 4303, 4452, 4550, 6023, 6078
fruit and plantation crops, tropical and sub-tropical, 1686, 1772, 1998, 2001, 2449 3648, 3680, 3681, 3747, 3754-3756, 3877, 4029, 5454, 5508, 7323, 7462
ornamentals, 1165, 1201, 1224, 1233, 1237, 1259, 1260, 1281, 1318, 2170, 2230, 2231, 3240, 3241, 3286, 3287, 3298-3301, 3303, 3304, 3315, 3317, 4087, 4088, 5150, 5161, 5167, 5183, 5209, 5221, 5222, 5379, 5850, 6877, 6922
various, 1590, 3532, 5379, 6694
vegetables, 819, 842, 884, 886, 896, 973, 985, 1006, 2350, 2920, 4945, 5012, 5167, 6529, 6687, 6726
seed responses—*see under* Seed germination *and* treatment
soil—*see* Soil
sums for—
rhubarb, 6694
temperate fruits, 428, 2682, 4391, 4433, 6074
vegetables, 1029, 2980, 4911
variations in orchards, 1682
Tenodera spp., as predators, 809
Tenuipalpus pallidus, 767
Tephrosia—
candida, 3630
spp., nutrition, 2849
vogelii, 7181, 7557
Terminalia belerica, 7146
Termites and their control, 2092, 3852, 4239
Terpineol determination, 1776
Terrington exp. Husbandry Fm, N.A.A.S., A.R., 181, 4227
Tetragonia expansa, 5004, 5006
Tetranychus—see also Eotetranychus—
atlanticus, 767, 6536

Tetranychus (*continued*)—
cinnabarinus, 767, 1172, 6405, 6856
mcdanieli, 701, 767, 2762, 4662, 6406, 6407
spp., on strawberries, 2766
telarius (= *T. urticae*), 102, 103, 695, 697-701, 767, 939, 1172, 1283, 2281-2283, 2345, 2858, 2968, 3375, 3566, 4142, 4215, 4657, 4661, 4671, 4959, 5130, 5907, 6384, 6402, 6411, 7171
viennensis, 767
Tetrapanax papyriferum, 1631
Tetraploid plants—*see also* Polyploidy—194, 351, 501, 533, 1487, 2354, 3094, 3243, 3265, 5007, 5180, 6711
Tetrazolium and its derivatives, biological applications, 3198, 5502, 5814
Thailand, orchid flora, 3346
Themeda quadrivalvis, 3978
Thermoperiodism—*see also under* Temperature—in plants, 4745
Thevetia peruviana, 7119
Thiamine—*see under* Vitamin B
Thielaviopsis basicola, 1345, 1365-1367, 3360, 3419, 3466, 3484, 4926, 5178, 5265, 5319, 6973, 7086
Thiouracil, virus development in relation to—*see under* Virus control by chemicals
Thistle control—*see also individual species*—4914
Thomasiniana lavandulae, 1559
Thorn-apple—*see Datura*
Thrips—*see also individual genera*—
angusticeps, 3000, 4812
genus unspecified, 935, 1937, 2365, 4968, 6793
nigropilosus, 3613
pollination by, 917, 1824
tabaci, 108, 1121, 3613, 5984, 7091
as virus vectors, 1121
Thryallis glauca, 1304
Thuja spp.—
diseases, fungus, *Cercospora thujina*, 1276
methyl bromide injury, 1271
propagation, 6798
varieties, 1275
weed control, 3350
wood used for boxes, 430
Thymus spp., in Belgium, 5350
Tilia spp.—
composition, flower, 6962
growth substances, responses, 4567
pests, 5226
rootstocks, 6806
Tingo Maria agric. exp. Stat., Peru, A.R., 200
Tissue culture, 31, 57, 64, 588, 1093, 1417, 2217, 2221, 2249, 3083, 3451, 3524, 4081, 4082, 4086, 4380, 5282, 5836, 5837, 6415, 6558, 7130, 7253, 7254
Tissue, preparation of experimental plant, 119
Tithonia speciosa, 2711
Tobacco—*see also Nicotiana*—
breeding, selection and genetics, 164, 1360, 1362-1367, 1412, 1430, 3411, 3412, 3418, 3420, 3455, 5255-5257, 5261, 6969, 6970, 6972, 6973, 6978, 6984, 6985, 7069, 7073, 7085
broomrape (*Orobanche* spp.) on, 1409
bulking and baling, 7106
climate—*see also below*, physiology—
air pollution—*see also below*, diseases, non-parasitic, weather fleck—2179
hail damage, 1409, 5274, 7020
leaf composition affected by, 3434
rainfall and its effects, 1407, 1458
temperature (including frost) responses, 1373, 1378, 3434, 3461
composition—*see also below*, curing, fermentation *and* physiology—
alkaloids, 1368, 1390-1392, 1395, 1396, 1406, 1408, 1409, 1412, 1414-1416, 1435, 1449, 3417, 3434, 3440, 3447-3449, 3454, 3455, 3495, 5254-5256, 5270, 5275-5277, 5287, 5291, 5292, 5874, 6996, 7007, 7009, 7014, 7024, 7027, 7029, 7033, 7035-7037, 7102
carbohydrates, 37, 1391, 1395, 1406, 1409, 3417, 3434, 3440, 3456, 3457, 3461, 3495, 5270, 5275-5277, 5296, 7009, 7026
essential oils, 7041
factors affecting, 164, 1390, 1391, 1394, 1395, 1397, 1406, 1408, 1409, 1412, 3417, 3434, 3440, 3445, 3447-3449, 3458, 3461, 5262, 5268, 5270, 5273, 5275-5277, 5293, 6996, 7004, 7009, 7010, 7012, 7014, 7018, 7024, 7027, 7029, 7033, 7035, 7036, 7051, 7102
growth substances—*see below*, physiology
mineral elements, various, 1389, 1394, 1397, 1453, 1816, 2301, 3461, 5271, 5272, 5275, 5277, 5328, 5844, 6510, 6511, 7004, 7007, 7012, 7013, 7027, 7029, 7095
moisture content, 1470, 1472, 3459, 7029
nitrogen compounds, 1368, 1391, 1406, 1408, 1409, 1418, 3417, 3434, 3440-3442, 3458, 3461, 3495, 3497, 4102, 5275, 5276, 5287, 7004, 7009, 7029, 7044
organic acids, 1418, 3445, 3450, 5270, 5271, 5276, 5294, 5298, 5335, 7035, 7045, 7051
phenolic compounds, 1395, 1425, 1427, 7046
pigments, 1423, 5301
quality grades in relation to, 1407, 1471, 1427, 2339, 7004
resins, 1406, 1424, 7041
of seeds—*see below*, seed
various compounds, 1427, 1431, 3417, 3458, 5258, 5293, 5322, 7040
curing—*see also below*, fermentation—
barns, chambers and equipment, 173, 1461-1463, 3494, 3496, 5332, 5333, 7099, 7100
bulk methods, 1455, 3409, 3493

Tobacco—curing (*continued*)—
chemical changes during, 1416, 1423, 1472, 5293, 5334, 7012, 7044, 7045, 7102
flue-, 3489, 5329
forced-draught, 7098
of machine-harvested crops, 3492
oxygen concentration affects, 1464, 7102
pH as control indicator in, 1465
stringing and other handling operations, 3490, 5253, 5329, 5333, 7097, 7101
temperature and humidity affects, 1456, 1458, 1464, 3489, 3490, 5335, 7102
various aspects, 5334, 5335
of whole plants (stalk method), 1459, 5330, 7096
diseases—
bacterial—
angular leaf spot (*Pseudomonas angulata*), 5310
blackfire (*Pseudomonas* spp.), 5310
granville wilt (*Pseudomonas solanacearum*), 1371, 3471, 5079, 5259, 7056
wildfire (*Pseudomonas tabacum*), 1370, 1430, 1431, 5310, 5311, 6986
cause uncertain—
brown root rot, 3419, 5260
frenching, 3462
greenspot, aladza or bassara, 1409, 7026
fungus—
Alternaria tenuis, 6989
barn rots developing during curing (various organisms), 7103
black root rot (*Thielaviopsis basicola*), 1365-1367, 3419, 3484, 4926, 5259, 5260, 5265, 5319, 6973, 6981, 7086
black shank or canker (*Phytophthora* spp.), 1371, 1372, 3482, 5257, 5259, 7084, 7085
blue mould (*Peronospora tabacina*), 155, 1354, 1362, 1367, 1433-1441, 1451, 2267, 3420, 3423, 3466, 3472-3481, 5314-5318, 6993, 7060-7083
brown spot (*Alternaria longipes*), 1432, 5259, 5312, 7057, 7058
damping-off and stem rot of seedlings (*Pythium* and *Sclerotinia* spp., etc.), 1372, 1376, 1446
frog-eye, barn spot or leaf spot (*Cercospora nicotianae*), 1450, 5313, 7059
powdery mildew (*Erysiphe cichoracearum*), 93, 3421, 5304
wilt (*Fusarium* spp.), 1371, 1376, 5259
wilt (*Verticillium* spp.), 5320
general, in the U.S.A., 3409
non-parasitic—
chilling, 3461
houseburn, 3490
spangling, 3445, 5270
weather fleck, 1379, 3419, 3463-3465, 5260, 5299, 5300, 7047

Tobacco—diseases (*continued*)—
varietal resistance, 153, 164, 1362, 1369-1371, 1428, 1431, 1432, 1435, 1438, 3409, 3419-3421, 3423, 3467, 3477, 3479, 5257, 5259, 5260, 5304, 5310, 5311, 5320, 6973, 6978, 6981, 6982, 6986, 7002, 7065, 7069, 7073, 7077, 7079, 7080, 7083, 7084
virus—
aster yellows, 6496
brown rib, 1362, 1428, 6981
bushy-top, 7048
cucumber mosaic, 5305
etch, 4138
general, various studies on, 3466, 5304, 5975
leaf curl, 3467
mottle, 7048
necrosis, 7052
ring spot, 1429, 4138, 5309
streak, 3470
tobacco mosaic, 93, 1369, 1370, 3421, 3468, 3469, 4138, 5304, 5306-5308, 5319, 6763, 7016, 7049-7055
economics, 1359, 1455, 5331, 5333, 5337, 6966
fermentation—*see also above*, bulking *and* curing—
chemical and physical changes during, 1467-1469, 3497, 3498, 7104
indexes to aid control, 1465, 7105
methods and equipment, 1464, 1467, 1468, 3496, 3498, 5336
flower initiation and development, 1399, 5279
flowers, seed yield in relation to, 7024
grading, 1466
growing—
in Argentina, 4042
of aromatic types, 1358
in the Congo, 3408
in East Africa, 1355, 2326
in India, 5252, 6967
in the U.S.A., 1359, 5251, 6964, 6965
growth—
post-harvest, 7032, 7033
statistical study on, 5254
substances—*see below*, physiology
harvesting—
costs and work studies, 1455, 5331
general, 1456, 5329
kinetics of leaf removal from the stalk, 7021
mechanical, 1460, 3409, 3492, 5330
priming, 164, 1457, 5331
stalk cutting method, 164, 1459, 7032
sucker development following, 7032, 7033
time of, 1456-1458
leaf(ves)—*see also above*, composition, *and below*, quality—
anatomy, 5299
colour, 3449
heat resistance, 39

Tobacco—leaf(ves) (*continued*)—
malformations, 5276, 5279, 7010
maturity, 1406, 5283, 5312
mitochondria, 4166, 5286
petiolate, 6972
physical properties of, 7022
position, composition in relation to, 7035
primordia, cell numbers in, 120
removal from the stalk, kinetics of, 7021
size and shape, factors affecting, 3439, 5268, 6996, 7001, 7006, 7014
stomatal movements, 7034
tensile strength, 3459
weight per unit area, 4360
machines—*see also above*, harvesting, *and below*, planting—for stringing and handling leaf, 5253, 5330, 7097, 7101
marketing, 3491, 5337, 7106
mutations, 1363, 3413, 6971
nutrition—
arsenic, 5328
boron, 1384, 1398, 1425, 3446, 7017
calcium, 1388, 1396
chlorine, 1380, 3445, 5270, 5272
disease susceptibility affected by, 3483
foliar, 3440, 3443, 7014
magnesium, 1380, 1384, 1388
manganese, 7017
manuring and major elements in general, 1356, 1380, 1384, 1385, 3437, 3438, 5269, 5982, 6999, 7000, 7002, 7003, 7005-7008
nitrogen, 1357, 1386-1388, 1390-1394, 1396, 1414, 3439-3440, 3442, 5270, 5271, 5288, 5312, 5315, 6966, 7000-7002, 7004-7010, 7013, 7042
phosphorus, 164, 1386-1388, 3443, 5270, 5312, 7001, 7007, 7011, 7012
potassium, 1386-1388, 1395, 1396, 3444, 5270, 5272, 5312, 7001, 7004, 7007, 7013-7015
sulphur, 1388, 7015, 7016
ornamental—*see under Nicotiana*
packing—*see above*, bulking
pests—
aphids (mainly *Myzus persicae*), 1443, 5325, 7090, 7091
budworms (*Heliothis* spp.), 1444, 3488, 7094
cigarette beetle (*Lasioderma serricorne*), 1448, 1449
cutworms (*Prodenia litura* and other species), 3488, 5327, 7092
flea beetle (*Epitrix hirtipennis*), 164
general, 1377, 1447, 2278, 3409, 3487, 5974
hornworms (*Protoparce* spp.), 1444
leaf miner (*Gnorimoschema operculella*), 3488, 5326
loopers (*Plusia* spp.), 3488
nematodes, 164, 1371, 1442, 1443, 3414-3416, 3485, 3486, 4231, 5321-5324, 7086, 7088
Tobacco—pests (*continued*)—
root maggots (*Hylemyia* spp.), 1445, 7089
thrips, 6796, 7091
wireworms, 164, 1446, 5327, 7093
physiology and biochemistry—*see also above*, climate *and* composition—
absorption and translocation of nutrients and other substances, 26, 1422, 3442, 3443, 3456, 4223, 5271, 5288, 5295, 5318, 5328, 7050
biosynthesis of various compounds, 1426, 5287, 7046
carbon dioxide fixation and carbohydrate metabolism, 37, 5280
of disease resistance, 5311
enzyme activity and distribution, 3498, 5335, 5975, 7044
growth substances, endogenous, 47, 5305
growth substances, responses—*see also below*, suckers, chemical suppression—62, 64, 1399, 1413, 2248, 3420, 3440, 3447-3449, 5263, 5276, 5277, 5279, 5868, 5874, 5977, 6992, 7021, 7027, 7034, 7043, 7057, 7086
heat resistance, acquired, 39
irradiation responses, 5301, 5302, 6969, 6971
nicotine, nornicotine and other alkaloids, biosynthesis and degradation, 1413-1415, 3448, 3451-3453, 5255, 5288-5291, 7038, 7039
organic acids metabolism, 1417, 5295, 5297, 7046
photoperiodic and other light responses, 164, 1399, 1412, 2234
photosynthesis, 3456, 5280, 5847
protein biosynthesis and metabolism, 5288, 7042, 7043
respiration, 2234
tissue culture, 64, 1417, 3451
water relations, 37, 4102, 7034
pigments—*see above*, composition
planting—
dates, 1356, 1378, 3432, 3434, 3437, 6995, 7000
mechanical, 3431, 5253
spacing, 1356, 1380, 1400, 3432, 3437, 5254, 5275, 5331, 6966, 6996, 7000
pollen and pollination, 2259, 6969
priming—*see above under* harvesting
production and trade, 6964, 6965
quality—
assessment, 5283
burning tests, 7014
factors affecting, 1368, 1369, 1382, 1386, 1388, 1392, 1397, 1400, 1407, 1456, 1457, 1464, 1468, 1471, 3435-3437, 3444, 3446, 5270, 5272, 5322, 5331, 6968, 6997, 7004-7007, 7010, 7014, 7018-7020, 7027, 7041, 7059, 7087

Tobacco (*continued*)—
research—
in Australia, 2370
in Belgium, 2347
design of trials, 3410
in India and Ceylon, 194, 195, 2364, 5979
in Mauritius, 4236
in Nigeria, 199
in North America, 4214, 4215, 4222, 4228, 5970
in Rhodesia and Nyasaland, 2363, 2368
a symposium on, 1354
in Tanganyika, 4239
root injury, plant residues cause, 4751
root systems and growth, 164
rootstocks, *Nicotiana* spp., 7036
seed—
-bed and plant-bed management, 1372, 1374-1377, 1436, 1439, 1440, 3426-3428, 4214, 5264, 5265, 5317, 6993, 7064
dormancy, 3422
germination, 1373, 3423-3425, 3427, 4751, 5263
oil, 1410, 1411, 6988, 7001, 7024, 7031
production, 1398, 7001, 7024
sowing dates and rates, 3427, 6993, 6994
storage and longevity, 1372, 5263, 6987, 6992
treatments, 1372, 3413, 3420, 3423-3425, 3480, 5263, 5301, 6971, 6989-6992
shading and its effects, 1374
shading, sterilization of cloth used for, 1372
soil—
management—*see also above*, seed-bed—
conservation, 1382
cultivation, 1382, 3430
fumigation and sterilization, 1397, 4223, 5265, 7010
green manuring, 1375, 3429, 3430, 3487, 6997, 6998, 7000
irrigation, 194, 1379, 1380, 1393, 3435, 3436, 4064, 7018
mulching, 7019
rotations, 1381, 1442, 3429, 4751, 5266, 5267, 6999
weeds and their control—*see also above*, broomrape—1382, 3433, 5265, 5273
requirements and types, 5268, 5269
soilless culture, 5268, 5328
sprays and dusts—
application methods, 1450, 1451, 7072
fungicides and insecticides, suitability of, 7087
injuries, 1443, 1452, 3475, 3477, 7094, 7095
residues, 1453, 1454, 7070, 7071
stem exudate, 1422
storage and fumigation, 1447, 4223, 5293
suckers—
chemical suppression, 1401-1404, 5277, 7027-7031, 7057
development and harvesting after hail damage, 5274, 7020
Tobacco—suckers (*continued*)—
kinetics of leaf removal from the stalk affected by, 7021
removal, quality affected by, 3432
second crop obtained from, 7032, 7033
topping, 1356, 1357, 1400, 3432, 3437, 5275, 5288, 7000, 7025, 7026
varieties—*see also above*, breeding—
aromatic or Turkish, 3407
disease resistance—*see above*, diseases
frost resistance, 1378
hybrid vigour in, 5262, 6973
mammoth strains, 6974
pest resistance, 1371, 3414-3416, 5325, 7088
tensile strength of leaves, 3459
triploid, 3417
in various countries—
Australia, 1360
Canada, 153, 3419, 5260
European, 1361, 1367, 3407, 5331, 6975, 6977-6982, 6984
India, 1357, 3418, 5252, 6976
the U.S.A., 164, 3417, 5258, 6986
the U.S.S.R., 5261
West Indian, 6983
Tocklai exp. Stat.—*see under* Tea research in India
Tomato—
breeding and selection—*see also below*, hybrids *and* mutants—
for dry matter content, 3114
for earliness, 1066, 3117
general, 794, 1065, 1069, 2351, 2354, 3113
for resistance to—
cracking, 1070, 1144
diseases, 773, 1066, 1070, 1071, 1125, 3118, 3119, 5072
pests, 1070
for storage quality, 3115
for vitamin content, 2263
climate—
air pollution, 3151
drought effects, 3126, 5057
frost or cold injury and protection, 1143, 2849
light and temperature responses—*see below*, physiology
sun scald, 3176
composition—
fruit—
carbohydrates, 1146, 3139, 5067, 5090, 5092, 5093, 5097, 6785
dry matter, 1146, 3114, 5067, 5090, 6785
factors affecting, 1097, 1099, 1142, 3186, 3187, 5023, 5049, 5053, 5067, 5089, 5091-5093, 5100, 6785
organic acids, 3187, 5023, 5090, 5093, 5100
pigments—*see also below*, fruit colour—1146, 3158, 3187, 5092, 5093, 5097, 5099

Tomato—composition—fruit (*continued*)—
vitamins—*see also above*, pigments—2263, 2861, 3139, 3186, 3187, 5100, 6735
leaf, 1092, 1104, 3139, 3145, 3151, 3169, 5022, 5046, 5049, 5057, 5066
plant, 87, 1095, 1103, 1113, 1115, 1131, 2297, 5055, 5056, 5077, 5078, 6751
diseases—
bacterial—
canker (*Corynebacterium michiganense*), 1123, 2858, 3164, 6766
crown-gall (*Agrobacterium tumefaciens*), 5078, 6765
general, 6497
spot (*Xanthomonas vesicatoria*), 3107, 3168, 3169
spotting (*Pseudomonas tomato*), 3168, 6768
wilt (*Pseudomonas solanacearum*), 1122, 3167, 5079, 6767
cause uncertain or non-parasitic—
blossom-end rot, 1099, 1116, 3137, 5068
cloud or blotchy ripening, 3135, 5067, 5093
hollow fruit, 1120
internal browning, 164, 5069
silver sector, 163
fungus—
anthracnose (*Colletotrichum phomoides*), 3176, 6779
blight—
early, target spot, or collar rot (*Alternaria solani*), 1124, 1125, 2942, 3171, 3173, 3176
late (*Phytophthora infestans*), 1125, 1126, 3119, 3172, 3173, 5083, 6457
southern (*Sclerotium rolfsii*), 805, 1130
damping-off (various organisms), 87, 804, 1138, 6478
fruit rots (*Rhizopus* and other species), 3176, 6779-6781
grey mould (*Botrytis cinerea*), 1126-1128
leaf—
mould (*Cladosporium fulvum*), 803, 2273, 6497, 6736, 6778
spot (*Septoria lycopersici*), 3120
spot, grey (*Stemphylium solani*), 1129, 3176, 6777
root rots (various organisms), 1132, 3170, 5038, 5080, 6769, 6770
Spongospora subterranea, 1079
stem rot (*Didymella lycopersici*), 803, 6771
wilt (*Fusarium* spp.), 1131, 2361, 3118, 3173-3175, 5039, 5081, 5082, 6761, 6772-6776
wilt (*Verticillium albo-atrum*), 1202, 2361, 3175
general, 1133, 3160, 5070
resistance—*see also above*, breeding *and below*, varieties—factors affecting, 86, 1115, 1116, 2361, 3175, 5900
Tomato—diseases (*continued*)—
virus, 1117-1121, 2345, 3161-3163, 5067, 5069, 5071-5077, 5975, 6762-6764
economics, 1127
flower(s)—
bud initiation and development, 1102, 1105, 1108, 1110, 1114, 2250, 3155, 3156, 5065
male sterility, 194, 5020
morphological characters, 163
fruit—*see also above*, composition, *and below*, harvesting, packing, physiology *and* storage—
bruising, 5088, 5089
colour—*see also above*, composition, fruit, pigments—1107, 1146, 3158, 5049, 5069, 5099, 6780
cracking, 1075, 1099, 1101, 1144, 1145, 3176
ethylene production, 5096
flavour, factors affecting, 3088
frost injury, 1143
fumigation, 193
growth, 3158, 5062
morphological characters, 5088
pH, factors affecting, 1142, 5091, 6752
quality, factors affecting, 1082, 1112, 1129, 1132, 3116, 3127, 3136, 3153, 3157, 5031, 5045, 5048, 5049, 5059, 5069, 6482, 6754, 6757, 6758, 6785
ripening, 194, 1090, 1098, 1143, 2507, 3157, 3180, 3186, 5061, 5091-5093, 5095, 5098, 5100
set and parthenocarpy, 194, 1094, 1101, 1102, 1111, 1112, 1129, 1146, 3152, 3153, 3157-3159, 5061, 5063-5065
size, factors affecting, 1082, 1111, 3126, 3145, 3152, 3157, 3158, 5045, 5063, 6757
yield, miscellaneous factors affecting, 3126, 3180, 5032, 5038
glasshouse—
air circulation, 1101
design and construction, 162, 4212, 5019, 6753
heating systems, 2314, 2845, 5034
grafted, management and nutrition of, 3140, 3141, 5037
grafting for disease control, 3170
grafting methods, 3129, 5309, 5955
growing—
in containers or troughs—*see also below*, seedlings, pots—4212, 6758
under glass or plastic, 153, 1105, 3103
in peat, 30, 3195
ring culture method, 3148
in various countries, 784, 1063, 1064, 3112, 6732, 6733, 6743
growth—*see also above*, fruit, *and below*, leaf *and* root—
analysis of, 6760
of axillary buds, 1108
disease resistance in relation to, 1115
-substances—*see below*, physiology

Tomato—growth (*continued*)—
various factors affecting, 1083, 3150, 3152, 3180, 5040, 5820, 5999
harvesting, 5088, 5089, 6784
herbicide responses—*see also below*, soil management, weed control—86, 1086, 6484
hybrid(s)—*see also above*, breeding—
interspecific, 1067, 1069, 5024, 6735
vegetative—*see also below*, rootstocks—794, 5025, 5026
vigour, 194, 1066, 3116, 6760
leaf(ves)—*see also above*, composition, *and below*, physiology—
growth and production, 163
optical properties, 35
primordia, cell numbers in, 120
spotting, toxin from fungus causes, 5375
mutants, 1068, 5020, 5022, 6734
mycorrhiza, 1504
nutrition—*see also below*, physiology, absorption, *and* soil management—
bacterial fertilizers and azotobacter inoculation, 1088, 5975, 6491
boron, 20, 1093, 1094, 1099, 5069, 6765
calcium, 1089, 1128, 1131, 3135, 3141, 5055, 6751
foliar—*see also below*, sugars—194, 1094, 3133, 3137, 3138, 5052-5054, 5834
in irrigation water, 181, 3136, 3182
leaf analysis as a guide to—*see above under* composition, leaf
magnesium, 2345, 5046, 6492
manganese, 1096, 3139
manuring in general, 1089, 1107, 4748, 5018, 5047, 5052, 5053, 5062, 6749, 6752
minor elements, various, 27, 795, 3138, 4999, 5056, 5831, 5959, 6494, 7397
molybdenum, 1079, 3140, 5056
nitrogen, 159, 164, 181, 194, 1090, 1091, 1097, 1098, 1116, 3128, 3132, 3133, 3136, 3140, 4072, 5035, 5046, 5048, 5049, 5069, 6747, 6748, 6765
phosphorus, 159, 194, 931, 1090, 1092, 1095, 3134, 3135, 5035, 5046, 5048, 5051, 5054, 5055, 5834, 6747, 6750, 6751, 6765
potassium, 159, 181, 3136, 5046, 5048, 5049, 5069, 6751, 6765
seaweed meal, 2849
sugars, 1094, 3139, 5035
zinc, 931, 4870
packing, 4414, 6559
pests—*see also below*, sprays—
cutworms (*Heliothis* and other species), 1134-1136, 3184, 5087
general, 1133, 3160, 3185, 6782
green vegetable bug (*Nezara viridula*), 3184
leaf miners (*Liriomyza* spp.), 6500, 6501, 6783
mites, 3183
nematodes, 96, 98, 804, 806-808, 1070, 1138-1140, 2365, 2860, 3177-3182, 5037, 5086, 5964, 5975, 6576
Tomato—pests (*continued*)—
slugs, 1141
symphylids, 3088
vinegar flies (*Drosophila* spp.), 1137
white fly (*Bemisia tabaci*), 4215
physiology—
absorption of antibiotics, 1123, 3165, 3166
absorption of nutrients, 2205, 2923, 3131, 3132, 3138, 3142, 5050, 5054, 5055, 5063, 6746
amino acid synthesis, 1091
carbohydrate metabolism, 5094, 5095
enzyme activity, 2507, 3139, 3187, 5064, 5100, 5831, 6761
gamma radiation responses, 1153
growth substances, endogenous, 47, 2297
growth substances, responses—*see also above*, fruit set *and* herbicides—794, 1094, 1109-1114, 1131, 2248, 2250, 3153-3158, 3166, 5012, 5032, 5033, 5063-5066, 5073, 6776
photoperiodic and other light responses, 158, 162, 793, 1104, 3128, 3139, 3144, 3147, 4212, 4745, 4827, 4875, 5034-5036, 5045, 5050, 5067, 6482, 6754, 6755, 6757
photosynthesis, 1111, 3139, 4094, 5057, 5060, 5064, 5066, 5085, 5845, 5847
protoplast activity, 4118
respiration—
fruit, 5095
leaf, 3139, 4080, 5066
plant, 1111, 4098, 5064, 6761
root, 42, 2233
temperature responses, 163, 1102, 1103, 1118, 2231, 3134, 3146, 3187, 5012, 5034, 5035, 5061, 5067, 5100, 6756, 6757
tissue culture, 1093
translocation, 1091, 1104, 1123, 3134, 3139, 4875, 5051, 5054, 5066
water relations, 158, 3142-3145, 4080, 5064, 5067, 5068
planting—
methods, 6750
spacing, 1082, 1100, 1107, 5019
time of, 2368, 3146, 5983, 6756
transplanting *vs.* direct sowing, 170, 3127, 5033
pollen treatment and germination, 2256, 5021
pollination, 2259, 3113, 3159
production and trade, 3112, 6732
pruning—*see also below*, staking—1081, 1106, 5018, 6759
research in—
Australasia, 2339, 2370, 4226
Belgium, 2344, 2347
Canada, 2350, 4215
Denmark, 5953
Great Britain and the Channel Islands, 776, 777, 2345, 4227, 4229, 5967, 5968, 5971, 6471
Holland, 5960
India, 2364

Tomato—research in (*continued*)—
the Irish Republic, 2336
Jordan, 778
Spain, 4216
the U.S.A., 4730, 5965
Vietnam, 2377
ring culture—*see above*, growing
root(s)—*see also above under* composition *and* physiology—
adventitious, 4847
excretions, 3175, 5084
growth, 20, 1084, 1093, 3148, 3149, 4866
nematodes attracted to, 3177
pressure, 3132
rhizosphere microflora, 1504, 3131, 3149, 3175, 5085
rootstocks—
Datura spp., 3140, 3141
Lycopersicon species and varieties, 1132, 3170, 5025, 5037-5039, 6769, 6770
Solanum spp., 3140
seed—
disease transmission by, 6771
sowing—*see also below*, seedlings production—direct, 170, 3127, 5033, 6749
storage, 3124, 5075
treatments, 794, 805, 1068, 1109, 2231, 3125, 3126, 3162, 4052, 4743, 5021, 5031, 5032, 5075, 6478, 6741
seedlings—*see also above* planting—
age for transplanting, 6742
artificial light for—*see above under* physiology, photoperiodic
pots or soil blocks for—*see also above*, growing, ring culture—168, 1079, 1080, 2195, 3146, 5820, 6756
production, 158, 163, 460, 792, 793, 1078-1081, 1102, 2849, 3128, 4061, 4173, 4175, 5033-5036, 6742, 6755, 6758
soil—
aeration, 1083
compaction, 1084, 4866, 5040, 6746
electric current passed through, 3114, 5999
management—
amendments and conditioners, 158, 6748
fumigation or sterilization, 174, 806, 1087, 1117, 1138, 2342, 2345, 3180, 4061, 5964, 6748, 6769, 6770
irrigation, 792, 797, 1097-1100, 3136, 3143-3145, 4065, 4196, 4235, 5058, 5059, 5976
mulching, 170, 798, 4841, 5044, 5045
soil heating, 2845, 2847, 5955
weed control—*see also above*, herbicide—180, 800, 802, 1085, 1138, 4128, 4841, 5041-5044, 5081, 6744, 6745, 6749
micro-organisms—*see above*, roots, rhizosphere
moisture, 6746
potting composts, 5040, 5822
structure, 6747
Tomato (*continued*)—
soilless culture, 29, 1080
sprays and dusts, etc.—
disease resistance affected by, 86
injuries—*see also above*, herbicide—1087, 1124, 1129, 2342, 2942, 3152, 3178, 3180
residues, 114, 3184, 5918
staking and training—*see also above*, pruning—1106, 1107, 3130, 5018
storage—*see also above*, fruit ripening—3187, 5097-5100
tree—*see* Tree-tomato
varieties—*see also above*, hybrids—
ancestry of, 1072
descriptions of individual, 1073-1075, 1142, 3122, 3123, 5028-5030, 6739
disease resistance, 1074, 1075, 2361, 3118, 3120, 4222, 5028-5030, 6736, 6739, 6777
dwarf, 3117
for mechanical harvesting, 3117, 5088, 5089
pest resistance, 1139, 5087, 5976
for processing, 3121, 5027, 6737
in various countries—
African, 2352, 5018
European, 776, 1077, 2840, 3121, 6737, 6738
India, 5065, 6740
Seychelles, 202
South American, 1076, 2362
the U.S.A., 783, 5027, 6477
the U.S.S.R., 3117, 5060
as a virus indicator plant, 6338
as a windbreak, 5014
Yearbook, American, 6732
Tools—*see also* Apparatus *and* Machines—for—
grafting, 3129, 6225-6227
removing strawberry flowers, 452
transplanting, 1989
tying up vine shoots, 6258
Topine—*see* Artichoke, Jerusalem
Tortoises, seed dormancy broken by passage through, 6741
Tortricids, control in glasshouses, 103
Tortrix—
postvittana, 712, 2800
pronubana—*see Cacoecia*
sp., on cabbage, 862
Toumeyella liriodendri, 6794
Toxins—*see also under* Soil sickness—
insect-produced, 2700, 4691
pathogen-produced, 4651, 5375, 5739, 6380
plant-produced, 289, 3150, 4215, 4751
seed-produced, 5817
Toxoptera aurantii, 1927, 4024
Toxotrypana curvicauda, 3915
Tracers—*see under* Radioactive isotopes
Trachyspermum ammi, 7109
Trachysphaera fructigena, 1842
Tractors, 161, 6260, 6261

Trade—*see also* Agricultural statistics—
crops—
fruits and nuts, 6, 212, 406-409, 1652, 1654, 1655, 1830, 3653-3655, 5504
ornamentals, 6787
plantation, 2034, 2035, 2104
vanilla, 5352
vegetables, 1654
essential oils, 5506, 7155
fats and oils, 1786, 1787, 5417
Yearbook, FAO, 2333
Tradescantia, physiology, 2235, 4120
Tradescantia, propagation by cuttings, 6800, 6803
Training—*see under* Pruning *and individual plants*
Translocation—*see also separate plants under* physiology—a review on, 5855
Transpiration—*see also separate plants under* physiology, water relations—
evapo-, 1689, 3143, 3144, 5010
factors affecting, 158, 533, 925, 1838, 2469, 2607, 3618, 3681, 3798, 5838, 5878, 5887, 6586, 7227
measurement of, 2295, 4182, 5838
nutrient absorption affected by, 2238, 4067, 6586
sprays or dips to reduce, 16, 1905, 5839, 6612
stream, velocity of, 2238
Transplanting—*see under* Planting
Transport—*see also* Marketing *and* Packing—of fruit and vegetables, 68, 405, 5883, 6275, 7298
Transport of sugar cane, 2102, 7532
Tranzschelia pruni-spinosae, 170
Traps for insects—*see* Insect
Trees and shrubs—*see also* Conifers, Fruit trees *and individual species*—
books, on, 1293, 4199, 4205, 5951
climate, salt-laden winds and their effects, 1311
climate, winter hardiness, 4207
destruction by herbicides, etc., 2368, 3913, 3924, 4475, 5892, 7381, 7496
flower forcing—*see* Forcing, ornamentals
fruiting, prevention of, 1801, 5108
growth, factors affecting, 1296, 5222, 5951
pests, 1315, 5970, 6795, 6796, 6951
physiology, 1177, 5842, 5951
pollen germination, 2255
propagation, 4056
pruning, 1300, 1301
rootstocks, 2351, 6806
soil salinity responses, 3198, 5224, 5970
stakes for, 2378
storage of plants—*see* Nursery stock
uses on highways and streets—*see under* Roads
uses in parks and gardens, 1295, 1297, 1340
in various countries, 148, 1295, 4199, 4205
weed control under, 5890
wound treatment, 5904
Tree-tomato (*Cyphomandra betacea*), 5535
Treviso "radish", 3024
Trialeurodes vaporariorum, 103, 4215, 5140, 6578
Trials—*see under* Statistical
Trichilia roka, 3621
Trichocereus candicans, 3341
Trichoderma—
koningii, 5497
lignorum, 6314
viride, 3131, 3175, 3715
Trichodesma zeylanicum, 5423
Trichodorus—see also Nematodes—*christiei*, 1138, 4972, 6686
Trichodorus spp., unspecified, 1730, 3384
Trichogramma spp., for insect control, 743, 3574, 6429, 6430
Trichoplusia ni, 193, 853, 858-860, 2910-2912, 4814, 4815, 6500
Trichosanthes anguina, 4742, 6562
Trigonella foenum-graecum, 4742
Trigonelline biosynthesis, 1924
Trillium grandiflorum, 3318
Trillium spp., ornamental, 3300
Trinidad, Central agric. Res. Stat., Caroni Ltd, and Ste Madeleine Sugar Co., Ltd, A.R., 5703, 7499
Trinidad and Tobago Cocoa Bd, A.R., 5568
Trioza erytreae, 1748
Triploid plants—*see also* Polyploidy—1163, 3417, 5180
Tripolitania, crops, fruit, 3655
Tritium, incorporation in alkaloids, 7039
Tritonia spp., corm storage, 3190
Tropaeolum—see Nasturtium
Tropical—
crops—*see also separate crops*—composition and nutritional value, 1817-1819
fruits, a book on, 1634
Pesticides Res. Inst., Arusha, A.R., 2268
Products Inst., London, A.R., 205
Truffle culture, 6676
Tsuga spp., pests, 1315
Tsuga spp., propagation, 6798
Tuberose—*see Polianthes*
Tulip—*see also under* Bulbs—
bulbs—
disinfection, 3273, 3311, 3320, 6878
harvesting, 3274
production, 1207, 2359, 3308
storage and pre-coooling, 1236-1238, 3311, 6877, 6878
composition, leaf, 5960
diseases, 3311, 3319, 3320, 6882
economics, 6879
flower development, 6877
flower quality, factors affecting, 1238
forcing, 1237, 1238, 4175, 6877, 6879
growing in Great Britain, 3271
nutrition, 5955, 6880
pests, nematodes, 3273, 3311, 6878
physiology, temperature responses, 6877
planting, spacing, 1235
research in Great Britain, 3272

Tulip (*continued*)—
soil—
management, irrigation, 6473, 6881
management, weed control, 88, 171, 2348, 2358, 3212
requirements, 1238
soilless culture, 6880
species in various countries, 3308
spray injury and responses, 5898, 5960
Year Book, R.H.S., 3308
Tung (*Aleurites fordii* and *A. montana*)—
breeding and selection, 5533
diseases, 3773
oil analysis, 205, 4232
pests, 7331
production and trade, 5417
propagation, vegetative, 1815
research in Nyasaland, 2368
research in the U.S.A., 4221
Tungsten interrelationships with molybdenum, 5056
Tunisia, crops, 1789, 5520
Tunstallia aculeata, 7556
Turmeric (*Curcuma* spp.), 1497-1499, 2212, 2364, 4742
Turnip—
bolting, 2901
composition, leaf, 45, 46, 847, 3095, 5921, 6510
composition, root, 6536
diseases, fungus, 2337, 4229
diseases, resistance, factors affecting, 5900
growth substances, responses, 2901
herbicide responses, 4804, 6484
nutrition, 795, 847, 2342, 2872, 3095, 4803, 4987
pests, 854, 2279, 2860, 3063, 6544
physiology, photoperiodic responses, 4746
seed—
germination, factors affecting, 6535
production, 4986
sowing, machines for, 4802
sowing rates, 2900, 4802
treatment and storage, 846, 854, 2901, 3063
seedling thinning, 4802
soil management, weed control, 800, 4804, 6484, 6485
spray residues, 4762
storage, 6533
varieties, 2364
Tylenchorhynchus—see also Nematodes—*martini*, 2996, 5742
Tylenchorhynchus spp., unspecified, 687
Tylenchulus—see also Nematodes—*semipenetrans*, 1730, 1737, 3720, 3770, 7267
Tylenchulus spp., on vines, 6398
Typhlocyba rosae, 3374
Typhlodromus spp., predacious mites, 693, 2281, 4664, 4669
Typhula itoana, 5193

Udonga montana, 7451
Uganda, crops, 2106
Uganda Dep. Agric., A.R., 2376
Ulmus—see Elm
Ultrasonic vibration of seeds, 3545
Ultraviolet light—*see* Light
Umbelliferae, seeds (fruits), storage diseases, 5362
Umbelliferae, weed control, 76
Unaspis citri, 1749
Unaspis yanonensis, 857
Uncinula necator—see Vine diseases, fungus, powdery mildew
United Kingdom—*see* Great Britain
United Planters' Ass. S. India, Proc. 7th annu. Conf., 5755
United Planters' Ass. S. India, sci. Dep., Tea Sect., A.R., 5754
United States—*see also individual States for reports*—
agricultural statistics, 2379, 5958, 5989, 6289, 7216
crops—
fruit—
deciduous tree—*see also under* Peach varieties—215, 218, 269, 5998
evergreen, 1945, 5505, 5514, 7216
general, 1654
small—*see also* Vine growing—452, 473, 2555
nuts, 6289
ornamentals, 6787
various—*see also* Tobacco, growing *and* varieties—3561, 5408
vegetables—*see also* Tomato *under* growing *and* varieties—1654, 4738, 6697
Dep. Agric., Secretary Agric., A.R., 182
Dep. Agric., Tobacco Statist., A.R., 6965
medicinal plants, 7116
poisonous plants, 5
Urea—
biuret an impurity in, 932, 4073, 5641
foliage sprays and dips, 156, 307, 308, 1269, 1308, 1919, 2336, 3133, 3190, 3440, 4328, 4329, 4339, 4494, 5035, 5472, 5640, 5641, 6267, 6268, 7245, 7545
-formaldehyde as a fertilizer, 673, 1192, 1308, 5830, 5970, 6890, 6945
leaf cuticle penetration by, 4353
in mushroom nutrition, 4957
plant diseases affected by, 673
soil application, 2063, 2589, 3132, 3207, 3933, 3966, 5641, 7490
Urentius echinus, 5016
Urocystis cepulae, 88, 1010
Uromyces—
appendiculatus, 26, 4890
colchici, 1211
spp., on bean—*see* Bean (*Phaseolus*), diseases, fungus, rust
Ursinia geyeri, 3266
U.S.S.R.—
botanic gardens, 5802
crops, fruit and nuts, 220, 221, 2386, 3751, 4495, 4562

U.S.S.R. (*continued*)—
crops, tobacco, 5261
plant protection in, 91
plant resources of, 5361
wild fruits in, 4562
Ustilago spp., on sugar cane—*see* Sugar-cane diseases, fungus, smut
Ustulina zonata, 5783

Vaccinium myrtilloides, 6196
Vaccinium spp., ecology, 4474
Valerian growing in Belgium, 2347
Valerian root extracts, pharmacology, 1549
Valerianella olitoria (corn-salad), 3029
Vallaris heynei, 1623
Valsa—see also Cytospora—
kunzei, 6918
leucostoma, 660, 4629
sordida, 6918
Vancouver Res. Stat., B.C., bien. Rep., 2355
Vanda spp.—*see also* Orchids—
cytology, 1264
intergeneric hybrids, 1265
tetraploidy induced in, 3348
Vanilla—
growing in the Seychelles, 202
light and gravity responses, 1500
production and trade, 5352
Variety(ies)—
collections, citrus, 1657
collections, deciduous fruits and nuts, 2386
identification by chromatography, 813
new, legal protection of, 3191
nomenclature, international code of, 2165
Vasates quadripedes, 6796
Vegetable(s)—*see also separate crops—*
breeding and selection, 172, 2356, 4233, 4735, 4739, 4740
composition—
factors affecting, 4749
lead, 4046
and nutritional value, 812, 1817, 2262, 6291, 6510
radioactive strontium, 6511
various organic compounds, 4740, 4765, 6691
vitamins, 2861
water, 8
crop residues, disposal of, 6495
crop residues, nitrogen released by, 5965
diseases and disorders, general, 90, 803, 2857, 4759
drying, 5884
economics, 2, 4738
Growers' Handbook, Ohio, 4730
growing—
under glass or plastic, 2844
as intercrops in sugar cane, 3944
on mixed farms, 4040
in soilless culture, 4079
in the tropics, 3944, 4042, 4733
growth measurements (phytometrics), 2839
harvesting—*see* Harvesting
Vegetable(s) (*continued*)—
herbicide responses, 2856, 5889
marrow—*see* Marrow
maturity tests, 136
nutrition, 166, 2336, 2348, 4747, 4749, 4759, 6495
packing and grading, 68, 71, 72, 811
pests, general, 90, 809, 810, 2278, 2377, 2858, 4141, 4730, 4739, 4761, 5910, 6498, 6503
planting, spacing, 773, 4735
preservation and processing, 2325
production and trade in the U.S.A., 1654
research in various countries, 169, 2838, 2356, 4221, 4236, 5969, 5970, 5980, 6471
root—*see* Root crops
seed—*see also under* Seed—
germination, herbicides affect, 5889
production, 785, 2183, 2841, 4739
quality, 2841
sowing, ribbons for precision, 3012
storage, 4739
testing, 4739
treatments, 2842, 4735, 4739
seedlings, raising, 4735, 4744, 4745, 6742
soil—
compaction, 4866
management—
cultivation, 773, 6479
irrigation, 4753, 4754, 6483
mulching—*see* Mulching
rotations, 773, 4730
weed control, 799, 801, 2853, 4123, 4124, 4730, 4755, 4757, 5885, 5891, 6471, 6486, 6487
pH requirements, 4750
salt tolerance, 4749
spray residues, 4154
storage dips, 811
storage methods, 6507
trade terminology, dictionary of, 74
transport, 5883
variety(ies)—
for freezing, 4764
new, lists of, 781, 782
trials, 151, 780, 783, 2356, 2840, 4741, 4742, 5985, 6473, 6477
unusual, 4734
wound healing, 4988
Venezuela, crops, 1076, 2877
Venturia inaequalis—see Apple diseases, fungus, scab
Venturia pirina, 6350, 6364
Veratrum spp., bulb storage and flowering, 5167
Vermiculite, horticultural uses, 6805, 6889
Veronica spp., as medicinal plants, 7120
Verticillium—
agaricinum, 995
albo-atrum, 2559, 2748, 3110, 3175, 3247, 3581, 3582, 3599, 5084, 5085, 5320, 5413, 5523, 6175, 6713
cinerescens, 3226, 6815
dahliae, 3401, 5230, 5320, 6497, 6815

Verticillium (*continued*)—
spp., unspecified, 180, 2269, 2361, 2693, 3180, 3578, 3598, 4213, 4642, 5411, 5129, 6838
theobromae, 3813
Vetiver (*Vetiveria zizanioides*)—*see* Essential oil
Viburnum—
composition, 6930
nutrition, 5238, 6930
propagation, 3204
seed germination, 3406
Vietnam, Crop Improvement Program, A.R., 2377
Vietnam, Inst. Rech. Caoutch., A.R., 2009, 5689
Vigna sinensis, 1705, 3004
Vinca spp., botany, composition and pharmacology, 1550-1553, 5390-5392, 7147-7149
Vinca spp., diseases, 2720
Vine—*see also Vitis, and for subjects relating to grapes see below under* fruit—
anatomy—*see below*, growth
breeding and selection, 2371, 2616, 2617, 2619, 2621, 2647, 4222, 4513, 4570, 5999, 6211, 6219, 6233
bud—*see below*, flower *and* growth
climate—
drought resistance and effects, 2618, 2624
fruit drop in relation to, 6268
hail damage, 4537
light responses, 2646, 2647
phenology, 2645
rainfall and protection against it, 528, 2624, 4550
spring frost injury and protection, 274, 526, 527, 2643, 4532, 5805, 5807, 6047, 6235, 6456
temperature responses, 528, 534, 2449, 2641, 2645, 2646, 2648, 2649, 4550
wind damage and protection, 530, 531, 6393
winter injury, hardiness and protection, 274, 2641, 2642, 4519, 4532, 6253
composition—
fruit and must, 528, 539, 562, 564, 565, 569, 570, 2619, 2679, 2680, 4544, 4548-4550, 4606, 6223, 6236, 6244, 6267, 6269, 6278-6280
leaf and petiole, 562, 567, 571, 574, 575, 1816, 2676, 2677, 4548, 6269, 6287
plant, seasonal variations in, 2677, 4518
root, 2462, 4526
shoot, 2677, 4505, 4520, 4526, 6240, 6280
diseases—
bacterial, crown gall (*Bacterium tumefaciens*), 6347
cause uncertain—
black measles or esca, 611
bud rot, 6314
dying arm, 612
fungus—
anthracnose or black spot (*Elsinoë ampelina*), 611, 677, 2749, 2750
Vine—diseases—fungus (*continued*)—
apoplexy (*Verticillium* spp.), 2693
black rot (*Guignardia bidwellii*), 4643
Cephalosporium sp., 2751
downy mildew (*Plasmopara viticola*), 525, 677, 680-684, 764, 2619, 2696, 2752-2755, 4570, 4644-4648, 4719, 6387-6393, 6456, 6457
excoriosis (*Phoma flaccida*), 611
flower blight (*Peyronellaea glomerata*), 4650
fruit rots (various species), 6246, 6282
grey mould (*Botrytis cinerea*), 678, 764, 2696, 4553, 4646, 6282-6284, 6385, 6386, 6390, 6497
powdery mildew or oidium (*Uncinula necator*), 525, 677, 683-686, 2696, 2727, 4140, 4498, 4570, 4646, 4648, 4649, 6233, 6387-6391, 6394, 6456
summer bunch rot (*Diplodia* sp.), 679
general, in the U.S.A., 606
non-parasitic, chlorosis, 2674, 2675, 4600, 6270
non-parasitic, shoot dessication, 530
varietal resistance, 513, 525, 2619, 2627, 2629, 2749, 4498, 4603, 6233
virus—
flavescence dorée or black wood, 4601-4603
general, 630, 2693, 4599, 4600
infectious degeneration, court-noué, fan leaf or mosaic, 630, 631, 709, 2693, 2721-2723, 4570, 4604, 5975, 6336-6339, 6416
infectious yellows, 4605
panachure, 6336
pierce's disease, 632, 6341
white emperor or leaf roll, 630, 2721, 2724, 4606, 6336, 6340
yellow mosaic, 5975
yellow vein, 2721
economics, 4540, 5956, 6208, 6209, 6248
flower—
biology and morphology, 537, 4527, 4528, 6218, 6241
bud—
dormancy—*see below*, growth
examination or forcing to forecast flowering, 2662, 2663
initiation and development, 537, 541, 4517
position on stem, 2661
or fruit drop, 534, 538, 541, 4527, 6268
or fruit thinning—*see below*, fruit bunch
flowering, factors affecting, reviews on, 2657, 6242
fruit (grapes)—
bunch, size or shape, factors affecting, 194, 540, 546, 4527, 6246
bunch thinning, 540, 4525, 5959, 6247
colour, factors affecting, 540, 6247
composition—*see above*, composition
cracking, 2655

Vine—fruit (grapes) (*continued*)—
drop—*see above*, flower or
fumigation, 582, 4553, 6282-6284
grading of raisins, mechanical, 581
growth substances, endogenous, 535
growth, temperature requirements, 534
harvesting—
maturity stages and time of, 68, 2679, 4551
mechanical, 579, 580, 5956, 6273, 6274
methods, general, 4552, 6275
marketing, 4552, 6113
packing, 583, 584, 4552, 6275, 6276
pigments, 6281
processing, freeze-drying, 585
quality, factors affecting, 562, 724, 4526, 4544, 4719
ripening—
chemical changes during, 4549
growth substances affect, 6244
maturity tests, 6279
various factors and treatments affecting, 534, 540, 2645, 4526, 4548, 6211
seed relationships, 546
set, factors affecting, 194, 534, 4525, 4527, 6247
set, parthenocarpic, 538, 2654
size, growth substances affect, 170, 538, 539, 2650, 2651, 2653, 6245, 6247
size, various factors and treatments affecting, 540, 574, 2656, 6247
storage—
methods, 68, 585, 586, 2344, 2680, 6282, 6283
quality, factors affecting, 68
rots, 605, 6282-6284
thinning—*see above*, fruit bunch
transport, 6275
variation within a variety, 6218
washing, 6273
wax, 6277
yields—
aerial photography for estimating, 508
forecasting, 2663
growth in relation to, 4526, 6239
various factors affecting, 724, 6239
girdling—*see below*, ringing
growing—
in Argentina, 4042
in Canada, 2612
in China, 506
in Europe, 507, 2614, 2693, 4496, 4532, 6206, 6207, 6416
at high altitudes, 6236
on hillsides, a book on, 4538
of hybrid direct producers, national restrictions on, 510, 2620
mechanization—*see below*, machines
in New Zealand, 2613
a review on, 503
in the U.S.A., 504, 505, 6205
in the U.S.S.R., 4495

Vine (*continued*)
growth—
anatomical studies, 2644, 4519
cropping in relation to, 4526
cycles, 532, 2645, 5999
dormancy and bud burst, 535, 536, 2648, 2649, 4516
root—*see below*, root
of shoots, various studies on, 534, 4508, 6237, 6265
substances—*see below*, physiology
wood maturity, 545
herbicide responses, 554, 4313
labour requirements—*see above under* economics
leaf(ves)—
area and its measurement, 2639, 2640, 2664, 6230
composition—*see above*, composition
defoliation, artificial, 248, 2666
essential oils, 6287
structure, in tetraploids, 533
machines—*see also above*, fruit harvesting, *and below*, planting; propagation by grafting; soil management, cultivation; and spraying—581, 6253, 6261, 6276
mutations, 6241
nutrition—*see also above*, composition—
bacterial fertilizers, 578
boron, 569, 574, 575, 2673, 4547, 4599
chromium, 569
cobalt, 569, 2673
copper, 4547
deficiency symptoms, general, 156, 4547
fertilizer placement, 2463
foliar, 319, 569, 570, 577, 2673-2675, 4075, 4546, 6266-6268
iron, 2674, 2675, 4599, 4600, 6268, 6270
manganese, 319, 569, 570, 2673, 4547, 4548
manuring and major elements in general, 568, 2670-2672, 2693, 4545, 6265
molybdenum, 2673, 4547
nickel, 576
nitrogen, 171, 569, 573, 2672, 2673, 6268
phosphorus, 569, 573, 2673, 4075, 4546, 6268, 6269
plant analysis as a guide to, 2676
potassium, 569, 571-573, 2673, 4546
salt injury and tolerance, 566, 6271, 6272
zinc, 319, 569, 577, 2673, 4075, 4547
origin of cultivated, 4497
pests—
ants, 716, 2819
beetles (various species), 736, 2696, 2780
birds, 2824, 2825, 6455
flea beetle (*Haltica lythri*), 6212
fruit flies (*Drosophila* spp.), 734, 736
general, 606, 713
grape berry moth (*Paralobesia viteana*), 4670, 4703
hawk moth (*Celerio lineata*), 4702
leaf roller (*Argyrotaenia velutinana*), 752

Vine—pests (*continued*)—
leafhoppers (*Erythroneura*, *Empoasca* and other spp.), 4687, 6341, 6424
mealybugs (various species), 2819, 6425
mites (various species), 708, 709, 4670, 4671
moths (various species), 753, 2809, 2810, 4646
nematodes, 689, 2693, 2756, 2758, 2759, 6398, 6416
phylloxera, 724, 2637, 2696, 2776, 2777, 2836, 4513, 4682, 6415, 6416
rabbits, 2829
thrips (*Drepanothrips reuteri*), 6453
wasps, 761
weevils (*Otiorrhynchus* spp.), 727, 6419
western grape leaf skeletonizer (*Harrisina brillians*), 6441
physiology—
absorption of nutrients, 6269
carbohydrate metabolism, 2724, 4503, 6240
enzyme activity, 4503, 4548
growth substances, endogenous, 535, 4503
growth substances, responses—*see also above*, fruit ripening, set *and* size—170, 194, 274, 535-539, 2647-2650, 2652-2655, 4503-4505, 4510, 5959, 6243, 6246
irradiation responses, 4501
light responses—*see above*, climate
osmotic pressure of sap. 2618, 4503
photosynthesis, 533, 4520-4522, 6238
protoplasm condensation, 274
respiration, 2236, 2449, 4520
temperature responses—*see above*, climate
of tetraploids, 533
tissue culture, 6415
translocation, 2678, 4523, 4726
water relations, 533, 4520
planting—
machines, 509, 6249
methods, 4538
posts, etc., for—*see below under* pruning and training
pruning at time of, 4533, 4534
spacing, 4502, 6248
pollen—
composition, 2254
development, 4529
germination, 534, 546, 2256, 2658, 2659, 2693, 4528, 4530
growth substances in, 535
storage and longevity, 2660
virus transmission by, 6316
pollination, artificial, 2616
pollination, natural, 2658, 4528
polyploidy, 533
propagation—*see also below*, rootstocks *and* seed—
by cuttings, 519, 520, 2632, 2633, 4221, 4502-4504, 4508, 4509, 6224, 6249
by grafting—
callus formation and union anatomy, 521, 2634, 2635, 6227
Vine—propagation—by grafting (*continued*)—
on cuttings (bench-grafting), 521, 4505, 4509, 6225-6229
machines for, 4507, 6225-6227
methods, 522, 4506, 4507
reworking, 523
scion selection, 2636
by layering, 4515
nurseries, machines for cultivating, 509
nurseries, management, 4508-4510
selection and treatment of mother plants, 519
pruning and training—
of frost or hail damaged vines, 527, 4537
history of, 6254
methods and responses, 542, 544-546, 568, 2612, 2664-2666, 4532-4536, 6250-6252, 6255, 6256
ties for, 551, 6258, 6259
time of, 543, 546, 2365, 6257
trees as supports, 547
trellising and staking, 509, 548-550, 2667, 4531, 6248, 6251, 6273
prunings, utilization, 6047, 6285, 6286
research in—
Australia, 5963, 5976
Belgium, 2615
Cyprus, 5980
Germany, 4494
India, 2364, 2372
South Africa, 2352
Spain, 4216
Switzerland, 2356
the U.S.A., 2359
ringing, 2656, 6247
root(s)—
cation exchange capacity, 2462
characteristics, identification of rootstocks by, 4514
growth, 532, 4508, 6265
pruning, 4533, 4534
systems, 561, 2485, 6265
rootstocks—*see also above*, propagation—
descriptions and identification, 524, 2639, 2640, 4514, 6230, 6234
disease resistance, 525, 6233
hardy, 6232
lime tolerance and chlorosis resistance, 2675, 6234
own-rooted plants compared with, 6232, 6239
pest resistance, 522, 4513
-scion relationships, 523, 567, 2370, 2637, 6231
in various countries, 2638, 4511, 4512
seed—
germination, 2616, 2631, 4501
number, factors affecting, 6244
treatments, 2646, 4501
shoots—*see above*, composition, growth and pruning
soil—
conservation, 563, 2670, 4538, 4539, 6264

Vine—soil (*continued*)—
diseases and pests in relation to, 6416
management—
amendments, 6264
cover crops and green manures, 568, 3536, 4540, 4541, 4547, 6265
cultivation, machines—*see also above*, machines—509, 2668, 4538, 6260-6262
fumigation, 2836, 4682, 6339
irrigation, 530, 564-566, 2642, 4544, 5805, 6272
methods compared, 68
mulching, 562, 2669, 4540
weed control—*see also above*, herbicide—170, 552-561, 2460, 2643, 4313, 4542, 4543, 6262, 6263
types and requirements, 6416
water responses—*see above under* physiology, water relations *and* soil management, irrigation
water retention, 563
spray(ing) and dust(ing)—
concentrate, general aspects, 680
fermentation affected by, 678, 4719
injuries, 2753, 4547, 4723, 6460
machines, 509, 2835, 4729, 6260
programmes, 4645, 4646, 4703, 6388, 6390
varieties—*see also above*, breeding—
Aleatico, 512
Anab-e-Shahi, 2624
Auxerrois, 513
Bangalore Blue, 6257
Bianchetta Trevigiana, 2625
Bovale and Cagnulari types, 2626
Canaiolo bianco, 512
Cardinal, 6216
Chardonnay, 2627
Chasselas doré, 6217
classification and identification, 514
Delight, 515
disease-resistance—*see above*, diseases, varietal
Freiburger, 6221
Furmint, 6218
Gewurztraminer, 6219
Guarnaccia, 2628
historical study of, 6210
hybrid direct-producers, 510, 2620, 6281
Kober, 2647
Krkošija šupljica, 516
Muscat types, 6220
NC 226-11, 2629
Ohanez, 517
Perlette, 515
pest resistance, 6212
Pinot types, 513, 6221
Pirovano types, 6215
R.5-31, 4500
Riesling, 2647
Rossara trentina, 6222
Sylvaner, 2647, 4604
Syrah, 512
tetraploid, 533
Vine—varieties (*continued*)—
in various countries—
Asian, 6210
European (including the U.S.S.R.), 510, 511, 2622, 2623, 4499, 6206, 6213, 6214
South American, 514
the U.S.A., 6205
Verdea, 6217
Verduzzo, 2630
Vermentino, 6223
Vernaccio types, 518
Vespaiola, 2630
Vineland hort. Exp. Stat., Ont., bien. Rep., 2351
Viola (including Pansy)—
flower development and growth substance responses, 1205
pollination and seed germination, 3267
taxonomy, 6844
Violet—
cytology and genetics, 1204
pests, 4142
varieties, 3190
Virginia agric. Exp. Stat., bien. Rep., 4228
Virus(es)—*see also hosts*—
antisera, preparation of, 6827
a book on, 4201
control, inactivation or reduction by—
antibiotics, 93
antisera or cross protection with mild strains or with other viruses, 1723, 5476, 6818
chemicals, various, 624, 934, 2940, 3469, 3987, 4885, 5075, 5343, 5975, 7052-7054, 7330
enzymes, 7055
germinating seeds in water, 3162
growth substances, 3269, 5306, 5307
heat—*see also* Sugar-cane setts, treatment, *and below*, warm culture—3162, 4589, 5164, 5308, 5975
insecticides, 3048, 5306
irradiation, 5975
light, 1117
milk, 1119, 4138, 6763, 7518
plant or seed extracts, 5306, 7055
propagation from tip cuttings, 87, 2345, 2723, 3190, 3225, 4582, 4592, 4594, 6814
propagation on resistant rootstocks, 2716
soil treatments, 2722, 4850, 6339
warm culture—*see also above*, heat—628, 1724, 2722, 2723, 3225, 3234, 4173, 4582, 4592-4594, 5128, 6332, 6814, 6835
detection by various methods—*see also below*, indicator plants—628, 629, 2692, 3190, 3708, 4586, 4600, 6318, 6827, 6828, 7169
-free—*see below*, -tested
host—
reactions—
composition, 26, 87, 1521, 2178, 4578, 4606, 4919, 5077, 6319, 7051, 7378

Virus(es)—host—reactions (*continued*)—
flower colour breaking, 6792
fungus disease protection, 2724, 4859
growth reduction, 2557, 2710, 4580, 4589, 4596, 6568
herbicide injury, 3980
histological, 4580
physiological, 92, 912, 3269, 4588, 5305, 7050, 7051
recovery phenomena, 4602, 4603
rootstock-scion incompatibility—*see also under* Citrus diseases, virus—4580
symptom expression, 621, 632, 977, 2224, 3468, 3582, 4576, 4595, 4598, 4600, 5475, 7472, 7551
yield reduction, 152, 2557, 4576, 4596, 4606, 4853, 5076, 5977, 6568, 6605, 6762
susceptibility, factors affecting, 1117, 1118, 2717, 3468, 3699, 4886, 5319, 6338
indicator plants—*see also under* Strawberry, diseases, virus—165, 619, 620, 2692, 2711, 2938, 3708, 4576, 4583, 4590, 6320, 6323, 6330, 6332, 6337, 6338
insect, for pest control, 107, 858, 2911, 2912, 4815, 6441
interactions between—*see also above*, control, etc., by antisera—5975, 6818
multiplication or concentration, factors affecting, 2224, 3269, 3468
nomenclature and terminology, 2270, 4137, 4577
reviews and surveys—
deciduous tree and small fruits, 614-618, 626, 2704, 2721, 4576, 4579, 4583-4585
general, 4209
vegetable crops, 2859
spread—*see also below*, transmission *and* vectors—climate in relation to, 2718, 6647
spread, weeds and wild plants in relation to, 627, 5309
-tested fruit clones, selection and maintenance, 2354, 2705, 2706, 4213, 4576, 6317, 6825
transmission—
by grafting and other mechanical means, 2709, 3591, 3592, 4581, 4850
by plant residues, 1117
by pollen, 2714, 3616
by seeds, 627, 1117, 1927, 3591, 4852, 4884, 5075, 5439, 6325
through soil or soil water, 1429, 2075, 2271, 2354, 3849, 4605, 4850, 4851, 5735, 5899, 7401, 7517
vectors—
aphids—*see* Aphids
fungi, 4940, 4941
leafhoppers—*see under* Leafhoppers
nematodes, 2354, 2720, 3849, 5975, 6328, 6334
various, 1121, 3467, 4602
Vitamin(s)—
A (including carotene)—*see also* Pigments, carotenoid—content—
factors affecting, 2894, 3100, 4916, 6533, 6548
of fruits and nuts, 6119, 7570
of vegetables, 1028, 2263, 2894, 3100, 4916, 6533, 6581
B (complex)—
content—
factors affecting, 4916, 7455
of fruits, 7570
of various plants and plant products, 2263, 5658, 7150
of vegetables, 1817, 4916
growth substances interact with, 2191, 4503
metabolism in germinating seeds, 2186
plant responses to applied, 2191, 2231, 4503, 4932, 5031, 6556
C—
biosynthesis, 2513, 6114, 6115
content—
factors affecting, 824, 1044, 2347, 2512, 2513, 2576, 2599, 2680, 2861, 2894, 3059, 3100, 3139, 3186, 3187, 3381, 3695, 4399, 4482, 4916, 5011, 5495, 6114, 6115, 6177, 6548, 7287
of fruits, deciduous tree—*see also* Apple *under* composition—2263, 2581, 6119
of fruits, small (including vine, rose, etc.), 472, 2513, 2576, 2579, 2581, 2594, 2597, 2599, 2680, 3381, 4482, 6177, 6200, 6280, 6944
of fruits, tropical and subtropical—*see also* Citrus *under* composition—1817, 1819, 2162, 2263, 6944, 7566, 7568, 7570
of various plants, 3059, 3543
of vegetables, leafy, 824, 2861, 2894, 3100
of vegetables, non-leafy—*see also* Tomato, composition—1044, 1053, 2861, 3059, 3064, 3109, 4916, 5011, 6581
determination, 2861, 3109
growth substances interact with, 2191, 4503
in plant metabolism, 5846
plant responses to applied, 2191, 2231, 4503, 5846
general, bios group in plants, 520
general, in fruits and vegetables, 7, 4034
K, in plants, 4097, 6714
P, in fruits, 7299
Vitex agnus castus, 1554
Vitex negundo, 1555
Viticulture—*see* Vine growing
Vitis—*see also* Vine—
palmata, 632
rotundifolia, 2617
rupestris, 537
spp., disease resistance, 4498
sylvestris, 4497
Voles—*see under* Rodents

Volvaria volvacea, 3047
Vriesia spp., flower bud induction by acetylene, 6905
Vriesia spp., growing in peat, 6904

Wädenswil, eidg. Versuchsanst. Obst-, Wein- u. Gartenb., A.R., 2356
Wadi Fara'a agric. Res. Stat., Jordan, A.R., 778
Wageningen—
  Centre Plant-physiol. Studies, A.R., 5960
  Inst.—
    hort. Engng, A.R., 162
    Plant path. Res., A.R., 87
    Storage and Processing of hort. Prod., A.R., 68
  Plant Path. Serv., Yearbook, 88
Waite agric. Res. Inst., South Australia, A.R., 183
Wales—*see under* Great Britain
Wallaby deterrents, 3998
Walnut—
  a bibliography on, 6288
  composition, 600, 2691, 6291, 7120
  diseases, 670, 2689, 2728, 2729
  flower development, 6306
  growing in various countries, 598, 2356, 2689, 4562, 4563
  growth and dormancy, 4567
  growth substances, responses, 4567
  as a medicinal plant, 2691, 7120
  nutrition, 600, 6307
  oil, suckering of tobacco suppressed by, 7030
  pests, insects, 723, 751, 2771, 2807, 4704, 5226, 6421
  pests, mites, 2771, 5226
  pollination, 6306
  production and trade, 6289
  propagation—*see also below*, rootstocks *and* seed—vegetative, 2690, 6290, 6304, 6305
  root growth, 599
  rootstocks, 599, 2690
  seed sowing, 599
  varieties, 598, 2689, 4563-4566, 6306
  yield variation, 5991
Washing fruits, 6273, 7290
Washington agric. Exp. Stats, A.R., 184
Washington St. Univ., Res. Progr. Reps, 2269, 2279, 2357-2359
Wasp damage and control, 761, 4146
Water—*see also* Climate, Drought, Flooding *and* Irrigation—
  content of—
    air inside fruits, 135
    horticultural products, specific heat related to, 8
    plant tissues, determination, 8, 121, 5621
    plants, determination *in vivo*, 121
    seeds, determination, 5621
  culture—*see* Soilless culture
  exudation by roots—*see* Roots, secretions
  ionized, life of cut flowers prolonged by, 6797
  -logging—*see* Soil
Water (*continued*)—
  losses from cuttings, rooting affected by, 6802
  relations of plants—*see also* Transpiration *and separate plants under* physiology *and/or* soil—
    apparatus for and methods of studying, 2883
    deciduous fruits and nuts—*see also* Apple—533, 4100, 4520
    evergreen fruit and plantation crops—*see also* Citrus *and* Sugar-cane—3914, 5522, 5549, 7322
    general, physiological studies, 2209
    ornamentals, 1216, 5838
    various—*see also* Tobacco—4102
    vegetables—*see also* Beans (*Phaseolus*), *and* Tomato—890, 2883, 4102, 4753
  treatment, softening, 5104
  tritiated, 7039
  waste, for glasshouse heating, 2921
Water-chestnut—*see Eleocharis*
Watercress—
  diseases, fungus, crook root, 773, 803
  diseases, virus, yellow spot, 6664
  packing, marketing and storage, 990
Water-lily, 6883
Water-melon—
  breeding, 2370
  broomrape on, 2937
  composition, 813, 906, 908, 2187, 2943, 6566
  diseases, 908, 1429, 2941, 2943, 2949, 6572, 6573
  flower sex ratio, 906
  growing in Senegal, 6475
  growth substances, responses, 2936
  harvesting, 6565
  maturity tests, 6566
  nutrition, 906, 6564
  pests, 4861, 6577
  pollen germination, 2256
  pollination, 907
  root systems, 905
  seed treatment and germination, 805, 2936
  soil management, irrigation, 797, 4235
  soil management, weed control, 802
  storage and transport, 2949, 6565
  varieties, 194, 813, 6572
Wattle—*see also Acacia*—
  bark and heartwood composition, 5428, 5429
  breeding and selection, 3625
  brushwood disposal, 3626
  nutrition, 3625
  pests, 3625, 5427
  propagation, vegetative, 3625
  Res. Inst., Pietermaritzburg, A.R., 3625
Wax(es)—
  chemistry of, 5430
  coatings—*see also* Citrus storage, dips; Nursery stock, plastic or wax, *and* Storage coatings—for grafts, 6228
  fruit surface, studies on, 5963, 6277

Wax(es) *continued*—
leaf, biosynthesis and composition, 4129, 4167, 5860, 5871
plant sources of, 205, 5430, 5433
Weather—*see* Climate, Frost, Hail, Meteorology *and* Wind
Weed(s)—*see also* Parasitic plants—
competition, a review on, 5893
control—
a book on, 75
a conference on, 5538
in crops—*for separate crops see each under* soil management *or* weed—
nurseries—*see below*, in specific areas
ornamentals—
annual and herbaceous, 166, 1180, 4124, 4128, 6808, 6809
bulbs, etc.—*see also* Bulbs, Gladiolus *and* Narcissus—88, 158, 171, 1229, 2348, 2358, 3212, 6808, 6876, 6906
trees and shrubs, 1270, 1294, 3209-3212, 3350, 4124, 5212, 5890, 6808
various, 3215, 4208, 5885, 6810
perennial tropical and subtropical fruit and plantation crops—*see also* Citrus, Coffee, Hevea, Sugar-cane *and* Tea—1822, 2004, 2268, 3633, 5596, 5983, 7207, 7338
small fruits—*see also* Black-currant, Blueberry, Cranberry, Raspberry, Strawberry *and* Vine—178, 280, 4123, 4124, 4312, 5885, 5890, 5971, 6185
temperate tree fruits—*see also* Apple, Peach *and* Pear—279, 557, 604, 2692, 4124, 4312, 4313, 4459, 5885, 5956, 5990, 6055, 6057
various—*see also* Tobacco—2268, 2273, 2347, 3085, 3577, 3587, 7180
vegetables, general or unspecified—*see* Vegetables
vegetables, various—*see also* Asparagus, Beans (*Phaseolus*), Beetroot, Cabbage, Carrot, Celery, Cucumber, Lettuce, Onion, Pea, Spinach *and* Tomato—76, 88, 166, 178, 800, 802, 2354, 2854, 2855, 4128, 4757, 4758, 4841, 4898, 6488, 6745
economics, 2070, 2957, 3373, 3873, 4013, 4311, 4993
frost injury in relation to, 2643
methods—
biological, 2937
chemical—*see* Herbicides
cultural—*see also below*, mechanical—561, 4841
mechanical, and machines, 137, 561, 3873, 4758, 6262
soil fumigation—*see under* Fumigation, soil
of particular types—*see also individual weed species*—
annual and biennial, 3215, 4542, 4543
aquatic, 1294, 2072
Weed(s)—control—of particular types (*continued*)—
grasses and sedges—*see also* Crabgrass *and Agropyron repens*, *Cyperus* spp., *Imperata* spp., *and Sorghum halepense*—1249, 1678, 1679, 1822, 2069, 2072, 3652, 3973, 3978, 4542, 5189, 5191
perennial herbaceous, 486, 557, 2069, 6899
perennial woody—*see* Trees and shrubs, destruction
in specific areas—
canals and ditch banks, 1294, 1678, 1679, 2072
lawns—*see* Lawn management
nurseries, 1678, 3209-3211, 3213, 4228, 4311, 5115-5117, 5448, 6204, 6798, 6808, 6957
seed-beds, 88, 278, 800, 1294, 1913, 2868, 3058, 3213, 5117, 5265, 5449, 5538
windbreaks, 286, 4312
in various countries, 2266, 4123
diseases transmitted by, 627, 911, 5309, 6570
ecology, factors affecting, 2984
as nematode hosts, 1736
Weigela—see Diervilla
Weihenstephan, staatl. Lehr- u. ForschAnst. Gartenb., A.R., 2360
Weinsberg, staatl. Lehr- u. Versuchsanst., A.R., 4494
Wellesbourne, nat. Veg. Res. Stat., A.R. and work at, 773, 2837, 6471, 6472
West—
African—*see also separate countries*—Cocoa Res. Inst., Tafo, A.R., 5567
African Inst. Oil Palm Res., A.R., 3913
Indies, crops, 4733, 5699
of Scotland agric. Coll., A.R., 185, 4229
Western Canad. Soc. Hort., Rep. Proc. annu. Mtg, 4230
Where to buy everything for agriculture and horticulture, an annual directory, 2335
White-currant—
flower bud differentiation and development, 483
pests, 6422
propagation, 4274
varieties, 221
Whortleberry—*see under Vaccinium*
Wilhelminadorp Exp. Stat. Fruit-growing in the Open, A.R., 210
Willow—*see also Salix*—
diseases, 6918
growing and processing for baskets, 1632, 4208
pests, 87, 1633, 7203
Wilting—
of plants, cut, ascorbic acid prevents, 4080
of plants, physiological effects, 37, 4102
toxins—*see under* Toxins
Winches, 6261

Wind—
crop responses and damage, 530, 2019, 3924, 3927, 3928, 5583
salt-laden, damage to ornamentals, 1311, 5249
soil temperature affected by, 4935
virus spread by, 2718
Windbreaks—
for crops, fruit and plantation, 277, 531, 2378, 2607, 5583, 5767, 6393
for crops, vegetables, 160, 779, 4873, 5014, 6742
disease incidence affected by, 4873
diseases and pests of, 5990
microclimatic effects, 2607, 4300, 6393
trees and plants—
deciduous trees, hedges and various ornamentals, 531, 2174, 2175, 3505
tropical and subtropical, 5583, 5767
vegetables, 5014
weed control in, 286, 4312
Wine—
making, a book on, 146
fruit varieties for, 2551
production and trade, 6
quality, analysis of, 2620
Winnipeg Res. Stat., A.R., 186
Wireworm control, 164, 1446
Wisconsin agric. Exp. Stat., A.R., 2361, 5977
Wisteria varieties, 1353
Withania somnifera, 3556, 3557, 5393
Wood shavings as a soil amendment, 1306, 5523
Woody plants—*see* Trees and shrubs
Work studies—*see under* Labour efficiency
Wound(s) dressings for trees and shrubs, 4132, 4718, 5818, 5904, 6347, 6353
Wound(s), healing, 15, 4988
Wye College, hop research at, 1584

Xanthium—
growth substances, responses, 2226
photoperiodic responses, 33, 2226
strumarium, as a weed, 2069
Xanthomonas—
albilineans, 2078, 2079
campestris, 2904
citri, 3712
fragariae, 6346
juglandis, 2689, 2728
pelargonii, 3244, 5140
phaseoli, 6582, 6593
pruni, 171, 634, 665, 6345
rubrilineans, 7522
spp., unspecified, 6836
vesicatoria, 1059, 3106, 3107, 3168, 3169, 6723
Xanthopastis timais, 4145
Xanthophyll—*see under* Pigments
Xenia and pseudoxenia in various crops, 346, 353, 354, 1572, 5644, 7249
Xiphinema—*see also* Nematodes—
americanum, 1730
Xiphinema (*continued*)—
diversicaudatum, 2720, 5975, 6334, 6397
spp., unspecified, 1888, 2758, 3849, 6328
X-rays—
for detection of pests, 2212, 7458
plant responses—*see also below*, use in breeding—various, 322, 5021, 5302
treatment of pollen, 67, 5021
treatment of seeds, 1068, 1857, 3413, 5021, 6681
use in breeding, 3238, 3345, 3413, 5156, 5973, 6842
Xyleborus—
corniculatus, 5605
ferrugineus, 5605
fornicatus, 2105, 2145, 2146, 4025, 4026, 7559
morstatti, 203, 1904, 1936, 3891, 7449

Yearbook(s)—
Advances in Virus Research, 4209
of Agriculture, U.S.D.A., 2184
Amateur Gardening Annual, 1150
American Tomato, 6732
Danish hort. Soc., 5953
Delphinium Society, 5135
Deutsche Akad. LandwWiss., Berlin, 2341
Fruit Annual, 4210
Horticultural Engineering, Wageningen, 161
Lily, roy. hort. Soc., 3300
Plant Path. Serv., Wageningen, 88
Production, F.A.O., 149
Rhododendron and Camellia, roy. hort. Soc., 3361
Rhododendron and Evergreen Woody Plants, Rhododendron-Gesellschaft, Bremen, 3362, 6928
Rose Annual, nat. Rose Soc., G.B., 5212
South African Sugar, 5700
Trade, F.A.O., 2333
Yeast extracts, as growth substances, 4503
Yeasts, pest control by, 6447
Yerba maté—*see Ilex paraguariensis*
Yew—*see Taxus*
Youngberry growing in Kenya, 2365
Yponomeuta—
malinella, 4699, 6432, 6433
padella, 4699, 6433
spp., unspecified, 6432
Yucca spp., sapogenins in, 1502, 5360
Yucca spp., seed anatomy, 1262

Zabrotes subfasciatus—*see Spermophagus*
Zamia spp., pests, 1312
Zamia spp., seed treatment, 1304
Zantedeschia spp.—
diseases, 1239, 6884
forcing, 1239
potting soil for, 1239
Zanzibar Dep. Agric., A.R., 5986
Zephyranthes spp., tissue culture, 31
Zeuzera pyrina, 740
Zinc—*see also* Fungicides—
absorption and translocation, 6589

Zinc (*continued*)—
application, foliar, 318, 319, 569, 577, 1309, 1827, 2464, 2673, 3701, 4075, 4338, 5464, 5643, 6729, 7245, 7357, 7516
content of plants, factors affecting, 931, 1637, 1737, 7489
deficiency, indicator plants for, 1705
deficiency symptoms, 931, 4068, 4547, 4871, 5643, 5668, 6710, 7357, 7459
determination, 2300, 5924
interrelationships with other elements, 931, 3697, 5595, 7245, 7357
nutrition—
of crops—
evergreen fruit and plantation—*see also* Citrus nutrition—3876, 3913, 4018, 5595, 5643, 5668, 7245, 7357, 7516
fruit and nut trees, deciduous, 318, 319, 636, 2464, 2474
ornamentals, 319, 1309
small fruits and vines, 319, 577, 2673, 2744, 4547
various, 4871, 5347
vegetables, 931, 4870, 4871, 4999, 6659
diseases affected by, 624, 1827, 2744, 3713
Zinc—nutrition (*continued*)—
physiological aspects, 5837
plant or soil analysis as a guide to, 4075, 4870
radioactive, 465, 6589, 7156
sources, 318, 624, 4338, 4999, 5347, 5778
toxicity, 4068
Zinnia—
breeding, 1206
composition, 6845
diseases, 3268, 3269, 3270, 5313
flowers, cut, life of, 3202
growth substances, responses, 1154, 3269
nutrition, 2849, 6845
salt tolerance, 3197
seed treatment, 5133
varieties, 3268
weed control, 6808
Zizyphus—
jujuba, 2163
mauritiana, 4037
rotundifolia, 2069
Zoysia spp., as lawn grasses, 1246, 6891
Zucchini—*see* Marrow
Zwetsche—*see* Damson